

STATE OF ILLINOIS
IN THE CIRCUIT COURT OF THE
SECOND JUDICIAL CIRCUIT
LAWRENCE COUNTY

CATHY BERKSHIRE,)
Individually and as)
Special Administrator of)
The Estate of RAYMOND)
TEDFORD, Deceased.)
Plaintiff,)
Lawrence County
-vs-)
OWENS-ILLNOIS, INC.,)
No. 05-L-8
Defendant.)

BEFORE THE HONORABLE MARK L. SHANER

EXCERPT OF THE REPORT OF PROCEEDINGS, being the
testimony of PETER NEUSHUL, had on the 25th day of
January, 2008.

APPEARANCES:

MR. ROBERT G. McCOY
Cascino Vaughan Law Offices
220 South Ashland
Chicago, Illinois 60607
and
MR. ALLEN LARGE
P. O. Box 674
715 12th Street
Lawrenceville, Illinois 62439
on behalf of the Plaintiff.

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1	MR. MATTHEW J. FISCHER Schiff Hardin LLP 2 660 Sears Tower Chicago, Illinois 60606 3 and 4 MR. EDWARD CASMERE Schiff Hardin LLP 660 Sears Tower 5 Chicago, Illinois 60606, on behalf of the Defendant.		(The following Excerpt of the Report of Proceedings, being the testimony of PETER NEUSHUL, were had in open court in the presence of the Jury.) 6 7 THE COURT: All right. Mr. Fischer or 8 Mr. Casmere, do you wish to present some evidence? 9 10 MR. FISCHER: Yes, Your Honor. 11 May it please the Court, we'd like to call 12 Dr. Peter Neushul to the stand. 13 14 THE COURT: Dr. Neushul, if you could 15 come forward, raise your hand, and then have a seat in 16 this chair. 17 18 (Witness sworn by the Clerk.) 19 20 PETER NEUSHUL, 21 called as a witness on behalf of the Defendant, being 22 first duly sworn, was examined and testified as follows: 23 24 DIRECT EXAMINATION BY MR. FISCHER: Q. Good morning.
21	Traci D. Ackman CSR #084-003370 Official Court Reporter Second Judicial Circuit Lawrence County Courthouse Lawrenceville, Illinois 62439		
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1	I N D E X INDEX 03 Testimony of PETER NEUSHUL 4 Direct Examination by Mr. Fischer 04 - 55 Cross Examination by Mr. McCoy 60 - 135 5 Redirect Examination by Mr. Fischer 136 - 151 Recross Examination by Mr. McCoy 151 - 154 REPORTER'S CERTIFICATE 156		A. Good morning. Q. Will you introduce yourself to the jury, please? A. My name is Peter Neushul. I'm a historian. I live in Santa Barbara, California. I -- THE COURT: I'm sorry, sir. Could you place that microphone a little closer and make sure it's turned on? Okay. THE WITNESS: Okay. My name is Peter Neushul. I am a historian from Santa Barbara, California. I specialize in the history of technology, history of medicine, 20th century U.S. history. I also do some environmental history and I've taught some general U.S. history as well. Q. You mention that you teach. Have you written in your areas? A. Yes. My specialty is American technology so I certainly have written in those areas. Within the history of medicine I've focused a lot on the history of antibiotics which were developed during the 20th century, especially penicillin which interests me because it has an impact on everyone's lives all the time; we all take antibiotics, give antibiotics to our children. So those, that's one topic which I think you would probably be familiar with that I've written pretty

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1 extensively about.

2 Q. Other than teaching and writing, what else do you
3 do?

4 A. Well, I'm a working historian. I do teach at the
5 University of California Santa Barbara but I also have a
6 long-term contract with the army to write histories for
7 them; in particular, the U. S. Army Corp of Engineers in
8 the southwest and so I will produce a history for them
9 every year. And I will also do a number of oral
10 histories, which it could be generals, it could be
11 civilian personnel in charge of construction projects.
12 But in each of those instances, or especially with
13 regard to the history, I'm looking at the context of
14 what's happening or what happened with the projects
15 because a hundred years from now we're going to want to
16 know what, what those people were thinking when they did
17 what they did. You can look. The Corp has been
18 building and having an impact on our society since the
19 beginning of the country. And certainly the events in
20 New Orleans recently are a very, very good example of
21 why we need to understand what the history of the Army
22 Corp was and what the perspective was of the people at
23 that time when they were doing the work that they did.

24 Q. What does it mean to be a working historian in

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1 now undoubtedly people will look back and go, Oh, you
2 know, they didn't know this, How silly, We know that
3 now. But you can't, as a historian you have to take
4 yourself back within the context of the time and
5 understand how people felt at that time.

6 Q. That's kind of my next question, Dr. Neushul,
7 which is, why does the Army Corp of Engineers need
8 someone with a Ph.D. in history as opposed to just
9 somebody to go back and read the memos that were
10 written?

11 A. Yeah. If you ask an engineer from today to go
12 back and try and understand how an engineer was working
13 a hundred years ago, they're going to look at it and say
14 this person didn't know, you know, what the heck were
15 they doing. You know, they're making mistake after
16 mistake after mistake. We don't do things that way
17 anymore. We don't, we use CAD programs to generate our,
18 our drawings. I don't even understand the drawings that
19 this person is working from. So they will not be able
20 to interpret the artifacts or the data that was
21 generated by this earlier generation of engineers. And
22 for that reason you explicitly want someone with
23 experience in history of technology to go back and look
24 at what was engineering like in, centuries ago or a

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1 2007? Specifically what are you doing and why is it
2 necessary.

3 A. Well, I don't just draw income from teaching. I
4 have to compete for grants to produce these histories
5 for the Corp. So they, the Corp needs to know and --
6 you know, we, of course the Corp is our agency, it's the
7 taxpayers and so on. They need to know, first of all,
8 where all the money is going into these billions and
9 billions of dollars worth of projects but they really
10 need to know what, you know, what were the challenges at
11 that time, you know, what were these, what were these
12 people addressing because these projects will outlive
13 the engineers that start them and a new engineer will
14 have to start that project up. In many cases the
15 project won't even start and all the people that started
16 it will be gone. So you have to know what came first,
17 what came before, what were the attitudes at that time,
18 what were the challenges at that time. And, you know,
19 we can today, all of us I think will agree, that 50
20 years from now people will be able to look back at what
21 we are doing today and say, hey, they made some
22 mistakes, they're not doing the right thing but they
23 had, they were -- we think we're doing great right now;
24 everything we're doing is right. But fifty years from

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1 hundred years ago and why is it, and in using those
2 historical tools to understand why things were the way
3 they were at that time. So a contemporary engineer is
4 not going to be able to relate to that, and yet, because
5 the projects are ongoing with the Corp they have to be
6 able to, they have to be able to understand what it was
7 that these people were doing.

8 Q. What is a historical method?

9 A. Okay. Let me -- I want to try and use a local
10 history example to explain what my methods would be you
11 may or may not be familiar with and you may know a lot
12 more about it than I do. But when I came to Vincennes I
13 saw the name George Rogers Clark, which is familiar to
14 me because I lecture on the Lewis and Clark expedition
15 and I know that George Rogers Clark was William Clark's
16 older brother. But I've also, of course, looked at
17 general U.S. history, especially through the
18 Revolutionary War, and I know that Clark is a war hero.
19 So I could, if I wanted to learn about this famous
20 military leader I could call up a general from today and
21 ask him. I don't think he's -- he's an expert on, you
22 know, tank formations today, General Schwartzkopf or
23 somebody, but is he going to know a lot about what
24 George Rogers Clark faced, the challenges that he faced

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1 at that time, the issues that he faced at that time? I
 2 don't think so. Okay. I'm going to have to use the
 3 historical method to gain insight into what happened in
 4 the attack on Fort Sackville which made Clark so famous
 5 and which is why you have a memorial near here in
 6 Indiana and why on February 25th you celebrate, at least
 7 Indiana celebrates George Rogers Clark Day. Now, as a
 8 historian I'm going to want to look at various sources
 9 in order to determine the significance of Clark's
 10 military leadership. I could look at a book, a
 11 textbook; that would be a secondary source. There might
 12 be a little paragraph in there. The person that wrote
 13 that paragraph will have looked at other sources. My
 14 goal, though, as a historian is, first of all, go in
 15 without a bias; you know, I can't have a preconceived
 16 notion. If I go in and only read things written by the,
 17 you know, the Sons of the American Revolution I'm going
 18 to get one side of the story, and yet, there's two sides
 19 to that story. There's a British side to that story as
 20 well obviously; and there's a third side to the story,
 21 there's a Native American side to the story. So, it's a
 22 complex story. I can't go in with preconceived notions.
 23 I can't go in with, I know the way it was already. So
 24 the best thing to get, though, and what I encourage my

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1 students to get, are primary documents: Documents from
 2 that time that haven't been changed that will, are going
 3 to give me insight on what happened in those days. And
 4 it so happens that George Rogers Clark kept a journal
 5 and was encouraged after that battle to write up his
 6 results by Jefferson, by Adams because this is an
 7 incredibly important event in the Revolutionary War.
 8 Also, the, Governor Hamilton on the British side, he
 9 also kept a journal from that time so from that --
 10 that's a primary document -- I can gain his perspective.
 11 Now Clark is the commander. There are times when
 12 commanders may be, you know, slapping themselves on the
 13 back and so on, so is there any way I can gain insight
 14 into the way the people felt that were serving
 15 underneath him? Well, there is captain later, Major
 16 Bowman, who also kept a journal about what happened at
 17 the Battle of Sackville and I can get input from his
 18 journal. So those are primary sources. I can look at
 19 those. I can put them together and, and look and
 20 reconstruct what Clark did and why that battle was
 21 important. Now, there will be some things that you will
 22 look at and go, boy, you know, by today's standards that
 23 is pretty harsh material. I mean Clark, the basic story
 24 -- you probably know this -- convinced the British to

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1 surrender to a much smaller force by making them think
 2 that he had a big army and causing them to surrender
 3 Fort Sackville. The elephant in the room this whole
 4 time is that the largest number of soldiers available are
 5 not British, they're not French, they're not American,
 6 they're Native American and the British are trying to
 7 keep the Native Americans or Indians on their side.
 8 Clark --
 9 Q. Dr. Neushul, did you get any sleep last night?
 10 A. No. I'm sorry. I'm just trying to, I'm trying
 11 to give a local example. But what, what it comes down
 12 to -- and again, I've looked at the primary documents.
 13 They're available, all right -- is that Clark does
 14 something that's somewhat disturbing. He captures some
 15 Native Americans and executes them with, tomahawks them
 16 in front of the fort and, you know, you look at that
 17 today and go, That's a war crime, That's not a good
 18 thing. But this was a pivotal moment in the
 19 Revolutionary War. They had to keep, they had to keep
 20 the British from gaining control of that part of the
 21 country. And remember, if that battle were lost, you
 22 know, there's a chance that our founding fathers would
 23 not be founding fathers; they would be people who were
 24 traitors and be strung up from the highest tree by the

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1 British. And so these were, these were tough times.
 2 And you look, you look back using primary documentation
 3 to gain insight into that, but it's a Pandora's box to
 4 open that up. But I know we'll be talking about other
 5 primary documentation and I think it's important to look
 6 at all of it, and I don't -- for example, if you're
 7 looking at medical literature I think it's important not
 8 to necessarily draw all of your information from a
 9 doctor from now when things have changed significantly,
 10 especially in medicine, as opposed to looking back at
 11 the history of medicine and what was the climate, what
 12 was the atmosphere from then.
 13 Q. What does the historical method say about
 14 corroborating sources?
 15 A. Well, what I, what I was just -- the example that
 16 I just gave. I can't just go with Clark's description
 17 of his glorious victory. I need to know what the
 18 British felt about the victory, I need to know about
 19 what other people with Clark felt about it, so I need
 20 more than one source. I cannot just take a line out of
 21 a letter without realizing, hey, maybe there's 50
 22 letters, maybe that letter is part of a lot of
 23 correspondence, and I need to look at all of it.
 24 Q. What would the historical method say about

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1 viewing historical data through what we know now?
 2 Obviously we know now the United States is a super
 3 power. What would that tell you about General Clark?
 4 A. You know, at that time the United States didn't
 5 exist. At that time -- you have to put yourself back
 6 within, within that time. There was no United States.
 7 Those, the people that were leading the Revolution at
 8 that time were taking an incredible risk. If they were
 9 to lose they would be executed. The British were very
 10 firm in areas like that. You cannot look back then with
 11 the attitude of a U.S. super power perspective. The
 12 U.S. wasn't a power at all. It didn't exist at all at
 13 that time.

14 Q. What areas of your work as a historian and your
 15 studies relate to the use of asbestos in the United
 16 States?

17 A. Well, I -- again, my background is history of
 18 technology, history of science, history of medicine.
 19 I've taken each of those fields, used the tools within
 20 those fields to look at this specific topic. So within
 21 history of medicine, I've looked specifically at the
 22 history of medicine as it relates to asbestos and the
 23 diseases that can be caused by asbestos. So in each of
 24 these areas -- and also within the field, for example,

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1 of industrial hygiene, I've looked at the history of
 2 industrial hygiene, the names of the people that you've
 3 already heard, I'm sure extensively throughout the last
 4 few days, are pioneers in that field, and I've looked at
 5 their papers and I've looked at their history. I've
 6 used the tools of my trade, which I've explained via the
 7 George Rogers Clark example, to look back at perhaps a
 8 much smaller topic but at the history of asbestos.

9 Q. I want to go through very quickly and just
 10 highlight for the jury what we're going to do with your
 11 testimony and then we'll go back and do it in slightly
 12 greater detail.

13 Mr. Tedford, who is Miss Berkshire's father,
 14 the Plaintiff in this case, died from mesothelioma.
 15 Tell us in headline form what, when did the knowledge
 16 about mesothelioma develop in the United States?

17 A. By looking at the history of medicine, the, the
 18 beginning of knowledge of this occurs in 1960 with a
 19 paper by Christopher Wagner, who was from South Africa;
 20 that's why his name is pronounced Vogner. It's
 21 published in a British medical journal in 1960.

22 Q. And what else happens with the development of
 23 knowledge about mesothelioma at that time?

24 A. After that point you will have probably the most

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1 famous name in the history of medicine as it relates to
 2 asbestos, Dr. Irving Selikoff here in the United States,
 3 and if you were to look at a newspaper even today you
 4 might find his name on occasion in there. He will
 5 conduct further research that will affirm the earlier
 6 work done by Wagner.

7 MR. FISCHER: Your Honor, may I
 8 approach?

9 THE COURT: You may.

10 MR. FISCHER: Okay.

11 Q. (By Mr. Fischer) Dr. Neushul, this is a slide
 12 the jury has seen. Will you take a quick look at that?

13 A. (Witness complied with the request.) Okay.

14 MR. FISCHER: Your Honor, may I show it
 15 to the jury? This is from Mr. Parker's testimony.

16 THE COURT: You may.

17 MR. FISCHER: Okay. The jury may
 18 remember this. This is a slide from Mr. Parker's
 19 presentation. Everybody got it? Okay.

20 Q. (By Mr. Fischer) Dr. Neushul, this slide
 21 indicates post-1958 knowledge; 1960 mesothelioma, Wagner
 22 -- spelled Wagner -- 1964 mesothelioma, Selikoff. Do
 23 you have any disagreement with that slide as being the
 24 important dates with regard to mesothelioma?

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1 A. No, and, you know, within the history of medicine
 2 those are the dates that are accepted.

3 Q. What kind of disease is mesothelioma?

4 A. Mesothelioma is a form of cancer.

5 Q. Okay. Is it a common disease, a rare disease?

6 A. Mesothelioma is a very rare disease.

7 Q. Was it a rare disease in the 1960s?

8 A. A very, very rare disease in the 1960s. Hence,
 9 Wagner's publication is, it's why it's publishable.

10 It's a revelation.

11 Q. What did the medical literature -- how about
 12 before, before Wagner published in 1960, what was being
 13 published about mesothelioma?

14 A. Before 1960 there's virtually nothing. There
 15 are, there is, in fact, a debate as to whether or not
 16 this form of cancer even exists; you know, whether to
 17 even call it a separate kind of cancer.

18 Q. Let's talk a little bit about asbestosis. What's
 19 asbestosis?

20 A. Asbestosis is scarring occurring inside the lungs
 21 from inhaling asbestos dust.

22 Q. When did the medical and scientific literature
 23 begin to discuss this scarring in the lungs caused by
 24 asbestos?

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1 A. You see a case study as early as 1924 by a
 2 British scientist named Cooke and in 1927 he will coin,
 3 you will see another case and coin the term asbestosis.

4 Q. Are there other lung scarring diseases?

5 A. Yes, there are several. You have --

6 Q. What are they called?

7 A. Silicosis is the most prominent of those and from
 8 the information you heard earlier, just a few minutes
 9 ago, that was a major, major concern -- by far the most
 10 significant dust-borne disease -- but you also have dust
 11 disease from inhaling coal dust, anthracosis; siderosis
 12 from inhaling cotton dust. There's a whole series of
 13 dust-borne diseases that you get from inhaling material.

14 Q. And is that how Cooke ends up with the name
 15 asbestosis?

16 A. Yes. He's not -- he's following a pattern there.
 17 There are already what are called -- this is a strange
 18 word, but they're called pneumoconioses and they group
 19 them all into that, but the major one within that is
 20 silicosis.

21 Q. Is the scarring from asbestos, is it a cancer?

22 A. No.

23 Q. What was the, what was the literature in the
 24 1930s with regard to how big of an issue asbestosis is?

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1 A. Well, you, you, at that time you have some
 2 industry beginning to emerge that's utilizing asbestos.
 3 And especially in great, in England there will be enough
 4 cases for a scientist by the name of Merewether to do a
 5 survey of an asbestos factory in England and he'll find
 6 some workers who have no asbestosis and he'll find some
 7 within the plant that have developed asbestosis in the
 8 particularly dusty areas of the plant. The plant
 9 differs throughout. And, as a result, he will determine
 10 that if you remove the dust you can create a safe
 11 working environment for everybody. However --

12 Q. How about the -- I'm sorry. How about the United
 13 States literature in the 1930s? What is it saying about
 14 this?

15 A. I think the United States industry emerges
 16 somewhat after the British industry. There will be a
 17 paper produced in 1938 by a government scientist named
 18 Waldemar Dreessen. This is in the 1930s right after the
 19 Social Security Act, which, in fact, funds the study,
 20 and he will come to the same conclusions as Merewether:
 21 That there are parts of these plants where you could
 22 contract asbestosis because they're dusty but you can
 23 create a safe working environment by using ventilation,
 24 by using measures to remove the dust. And, but his

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1 suggestion in that paper will be selecting a very
 2 conservative dust level, one at which you could be
 3 exposed all day long, eight hours a day, all through the
 4 working week and not get asbestosis, and that was five
 5 million particles per cubic foot.

6 Q. What happens with regard to that five million
 7 particles per cubic foot number in the years after
 8 Dreessen proposes it as the tentative safe level?

9 A. During the late 1930s and into the 1940s this
 10 will become the accepted maximum allowable concentration
 11 or threshold limit value. These are names that are used
 12 by an organization called the American Conference of
 13 Governmental Industrial Hygienists. That field is
 14 beginning to emerge at this time. They have a
 15 government, a group of government industrial hygienists
 16 who choose the five million particles per cubic foot as
 17 their safe level. They determine safe levels for
 18 Silicote, coincidentally which is also 5 million
 19 particles per cubic foot, and numerous other materials;
 20 lead. They're looking at industry at this time and
 21 saying, hey, people are being exposed to materials and
 22 we need to determine what the safe levels are. But
 23 again, this is a time when there are very, very few --
 24 probably less than 300 after World War II -- industrial

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1 hygienists in the United States.

2 Q. How did this field of industrial hygienists
 3 relate to the threshold limit value as we're going
 4 forward in time?

5 A. Well, the A.C.G.I.H., the American Conference of
 6 Governmental Industrial Hygienists -- that's a mouthful
 7 -- will establish what's called a Threshold Limit Value
 8 Committee, and every year industrial hygienists on that
 9 committee will evaluate, Is this level still going to
 10 create a safe working environment? And these are
 11 guidelines. They are conservative guidelines and it
 12 states that that's what they are. In other words,
 13 they're not, they're not saying that, you know, you're
 14 okay if you're one percent beneath five million. They,
 15 they're hopeful, or they believe that five million is a
 16 very, very safe, and they're trying to encourage, you
 17 know, a very safe work place by reviewing every year and
 18 producing a list of what the TLVs are for various
 19 materials.

20 Q. When did the TLV change from five million
 21 particles per cubic foot of asbestos?

22 A. That's not going to change until the 1960s.

23 Q. Who is out in the field determining -- what
 24 profession is it that determines how much dust, how much

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1 asbestos dust is in the air?
 2 A. That's part of the job of an industrial
 3 hygienist. They go out and they take dust measurements.
 4 They could follow a worker around all day and attach a
 5 device to them to see as they lean over how much dust
 6 are they inhaling in various positions in various parts
 7 of a manufacturing environment and determine, you know,
 8 what their exposures might be, so that's part of their
 9 job. But the other part of their job -- and I know
 10 you've been introduced to Willis Hazard -- is
 11 engineering ways of removing that dust.

12 Q. And would those engineering methods just be
 13 considered general dust control?

14 A. Those are part of dust control, yes.

15 Q. Was there, was the information that asbestos
 16 could cause the disease asbestosis generally known
 17 amongst the medical and scientific community in the
 18 1930s and 1940s and 1950s?

19 A. Yes, it was.

20 Q. Was the importance of dust control known in the
 21 medical and scientific and industrial hygiene
 22 communities in the 1930s, 1940s and 1950s?

23 A. Absolutely it was.

24 Q. Were the methods of appropriate dust control

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1 Council. Texaco is a member of the National Safety
 2 Council. Virtually every major corporation in the
 3 United States is affiliated with the National Safety
 4 Council. They will publish information on engineering
 5 methods, on, they have huge sections with advertisements
 6 for dust control technologies. They're not, of course,
 7 just looking at dust-borne disease. They're looking at
 8 auto safety. They're looking at all, a series of
 9 different safety issues but they are just one of the
 10 institutions that, that's around at this time. And
 11 again, this is a time when there was no OSHA; there is
 12 no Environmental Protection Agency. These things will
 13 come a lot later. And there were, however,
 14 organizations because businesses were concerned with
 15 safety.

16 Q. So the National Safety Council would have been
 17 industry funded at that time?

18 A. Yes. But not, it's not just industry that's
 19 members of the National Safety Council. Government
 20 agencies; the Corp of Engineers is a member of the
 21 National Safety Council. It is, and continues to be
 22 today, a major source of information on safety.

23 Q. What's your reaction as a historian to a
 24 criticism of an organization in the 1930s on the grounds

Page 23

Page 25

1 known in the medical, scientific, and industrial hygiene
 2 communities in the '30s, '40s and '50s?

3 A. Yes, they were.

4 Q. Where were those methods first published?

5 A. Well, if you look, for example, at the Merewether
 6 report, there are two authors to that -- this is the
 7 British one -- there's Merewether and there's Price.
 8 Price is an engineer. Price will describe methods for
 9 removing dust in those areas where people in this
 10 British facility are contracting asbestosis. There's an
 11 engineering side, also, to the Dreessen report in 1938,
 12 the one that the U.S. government will pay for, that
 13 describes methods for removing dust in this, in the
 14 textile plant in North Carolina. The industrial hygiene
 15 journals will emerge during this time as the profession
 16 grows and those will include descriptions of engineering
 17 methods for handling dust.

18 Q. How about industrial hygiene organizations? Are
 19 they also giving advice about how to control dust?

20 A. Yes. There are organizations, say, for example,
 21 the National Safety Council, which is something we still
 22 see evidence of every day in our lives. They are called
 23 the Green Cross. They will publish. And, you know,
 24 Owens-Illinois is a member of the National Safety

1 that it was funded by industry?

2 A. In the 1930s -- and we've got to remember this is
 3 going back, Franklin Delano Roosevelt and the Great
 4 Depression. This was a time when the government was not
 5 funding these sorts of organizations. You could not
 6 look to the government for a Consumer Product Safety
 7 Commission telling you, telling businesses what they
 8 needed to do from a government perspective. There was
 9 nothing like that at that time, and yet, in the 1930s
 10 there was a crisis over silicosis. There were people
 11 developing silicosis working in industry. And
 12 businesses -- that, that was really a catalyst for
 13 businesses to form their own organizations to address
 14 the problem of silicosis.

15 Q. Dr. Neushul, you've also studied specifically the
 16 Owens-Illinois operation in relation to Kaylo. Is that
 17 right?

18 A. That's correct.

19 Q. Do you have opinions about the conduct of
 20 Owens-Illinois with regard to its Kaylo operation?

21 MR. McCOY: Your Honor, may I be heard
 22 on this?

23 THE COURT: Please approach.

24

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1 (Whereupon a discussion was had by
 2 the Court and counsel out of the
 3 hearing of the Jury and the
 4 reporter, after which the
 5 following proceedings were had in
 6 open court.)
 7

8 THE COURT: An objection has been made
 9 and overruled.

10 Did you complete your question, Mr. Fischer?

11 MR. FISCHER: I believe I did, but I
 12 would very much appreciate -- let me ask the question
 13 again. Thank you.

14 Q. (By Mr. Fischer) Do you have opinions about the
 15 conduct of Owens-Illinois with regard to its
 16 manufacturing and sale of the Kaylo product?

17 A. Yes. In looking at that company within the
 18 context of that time, I feel their conduct was
 19 exemplary. And even moving to the current time, you
 20 look at the scientific studies that were done,
 21 publication of those studies and studies in the open
 22 literature, it is I think exemplary conduct.

23 Q. Dr. Neushul, I'm going to have you take a look at
 24 what's been marked as Owens-Illinois Exhibit 526.

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1 Would you tell us what that is, please?

2 A. This is a copy of my, what's called a Curriculum
 3 Vitae, which is the description of when I got my various
 4 degrees and things that I've written and what sort of
 5 teaching I've done.

6 Q. It includes your publications and the other areas
 7 of your expertise. Is that right?

8 A. That's correct.

9 MR. FISCHER: Your Honor, we would move
 10 for the admission of the exhibit.

11 THE COURT: Mr. McCoy?

12 MR. MCCOY: No objection.

13 THE COURT: All right. It will be
 14 admitted.
 15

16 (Owens-Illinois Exhibit 526 was
 17 admitted into evidence without
 18 objection.)
 19

20 Q. (By Mr. Fischer) I want to now move into some
 21 more detail about some of the things that you've talked
 22 about, Dr. Neushul, but not a great deal more detail.

23 What is a case report?

24 A. A case report, historically if a physician were

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1 working on, in a hospital or working with a patient and
 2 saw something very, very unique -- I haven't seen this
 3 before. I'd like to write this up, write up a
 4 description of what I'm seeing -- say, it's a disease or
 5 a condition, and I'm going to try to get it published in
 6 the medical literature. You cannot, for example, write
 7 a case report of the common cold because that's not
 8 going to be publishable. It has to be something unique.
 9 And so a case report is something that turns out,
 10 indeed, to be unique because the journal says, you know,
 11 we're going to publish this.

12 Q. How does the development of medical knowledge use
 13 case reports?

14 A. If you see a large number of case reports
 15 appearing -- you know, we're seeing case after case of a
 16 rash appearing when babies use this particular diaper --
 17 then someone may do a study; you know, look and see if
 18 they can duplicate those conditions in a study. So, a
 19 large number of cases or a number of cases will lead to
 20 further study; direct study, though, not just, gee, this
 21 is something new, I'll try and publish it.

22 Q. Is that what happened with mesothelioma?

23 A. You know, with Christopher Wagner's work, he
 24 looks at a group of cases, a large number, over 30

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1 cases, and they're all showing the same condition, the
 2 same unusual condition and that's why the study is so
 3 pivotal, and really it's a, it's a big surprise. And
 4 he, this has been recognized by -- anybody that writes
 5 about this in subsequent years will always cite 1960
 6 Christopher Wagner's paper because that is when we
 7 understood the connection between asbestos and
 8 mesothelioma.

9 Q. How can you tell in 2007 what was a, what was
 10 pivotal back in 1960 or some other year decades ago?

11 A. Well again, as a historian of medicine, I can go
 12 back and look at the papers that are cited the most.
 13 Even I, as a historian, the most important thing I've
 14 ever done is my work on penicillin and the only way I
 15 can say that is because people cite it a lot. They look
 16 to it a lot. They go, oh, Neushul wrote this paper, I'm
 17 putting it in my footnotes, over and over again. And
 18 there are, you know, we've got computers now. You can
 19 count the number of times that your papers are being
 20 cited.

21 In the case of Wagner that paper is cited
 22 over and over again, and the author is continually
 23 saying, this is when it began, this is when we
 24 understood this, and they cite Wagner. He's received --

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1 he's passed away but he's received obviously awards and
 2 so on for his work in this field in recognition of his
 3 pioneering work.

4 Q. What do you see about citations to case reports?

5 A. You don't. A case report is the one data point.

6 It's not a series of data points. You cannot make a
 7 conclusion from one data point and, you know, I think we
 8 can see that in all parts of our life. You can't make a
 9 decision based on one event. You have to see a pattern,
 10 okay? And that is what Wagner's work will establish.

11 So, no, you don't see decisions made based on one event.

12 Q. How about when you go back and look at the
 13 historical records? Do you see contemporaneous, or do
 14 you see references to the case reports in other
 15 literature at the time the case reports appear?

16 A. If someone is writing a case report, they may --
 17 they're saying it's unique but they may, they may, as
 18 part of the footnotes of their case report, say, look,
 19 I, you know, I have seen that this -- I want to give
 20 this the same name, this condition I'm seeing, because
 21 I've seen somebody else has done it, so you're going to
 22 do a literature search and see if what you're, what
 23 you're proposing as unique is part of a pattern. Of
 24 course, if it's the common cold, you know, it's not; you

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1 know, that's a pattern that's already been established.

2 Q. When is it, in your opinion, Dr. Neushul, when is
 3 it that mesothelioma is linked to asbestos exposure?

4 A. I believe the link -- well, I know in the medical
 5 literature the link occurs with Wagner's paper in 1960
 6 but there's going to be a lot of ensuing research. And
 7 in terms of the general public, it reaching a large
 8 number of people, it won't be until the mid-1960s or
 9 even later with the work of Irving Selikoff that you're
 10 going to see a true pattern, a true connection
 11 established.

12 Q. The jury saw earlier in the week the testimony
 13 from Dr. Hammar. Do you know who Dr. Hammar is?

14 A. I believe he's a contemporaneous -- obviously
 15 he's still alive -- a medical doctor.

16 Q. He showed some photomicrographs involving
 17 immunohistochemical staining.

18 A. Uh huh.

19 Q. Would a pathologist in the 1940s or 1950s have
 20 even understood what photomicrographs of
 21 immunohistochemical stainings are?

22 A. No. That's part of the -- I think, for example,
 23 if I'm looking at the history of this topic, I'm not
 24 going to talk to a doctor from now. Their job is to

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1 give you the best data, to give you the best treatment
 2 now, okay? They weren't even alive when this earlier
 3 science was done; they certainly weren't in medical
 4 school. So I'm looking at a different kind of approach.
 5 It's a historical approach. I have to know what doctors
 6 felt then. They didn't have tools like that at that
 7 time, and to say today, oh, these guys were silly, they
 8 didn't see this -- which is a perspective that maybe a
 9 contemporaneous physician would take because they don't
 10 study history of medicine. There's really no point in
 11 them studying history of medicine. They need to be at
 12 the cutting edge, and yet, these events took place
 13 before they were born.

14 Q. Let's talk about asbestosis. How does asbestosis
 15 in the historical context compare to mesothelioma?

16 A. Well, within the historical context, asbestosis
 17 comes long before, as we've already discussed,
 18 mesothelioma. You know, this is a disease that emerges
 19 in the 1920s and is identified in the 1920s and into the
 20 1930s.

21 Q. In the '20s and '30s what's the primary concern
 22 about asbestosis?

23 A. The concern in the '20s and '30s is keeping dust
 24 levels down because you know, you know in the '20s and

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1 '30s you can go into a factory where they're
 2 manufacturing products containing asbestos and some of
 3 the people have no asbestosis at all. And they'll, you
 4 draw a connection between, well, there's a lot of dust
 5 in some areas and you're seeing some cases of asbestosis
 6 in those areas and not in others. So, is there a level
 7 of dust that we can use by controlling dust to prevent
 8 anybody from getting asbestosis, and they determined
 9 that there is.

10 Q. From a public health perspective why are doctors
 11 worried at that time about people getting scarring
 12 diseases in their lungs?

13 A. I mean, if you transport yourself back to that
 14 time -- I know it appears, you know, this is obviously
 15 the issue of the day that we're talking about. But you
 16 go back to the 1930s the lung disease of that time is,
 17 is tuberculosis. And that is -- you'll see that in, you
 18 know, these documents that you may have discussed
 19 earlier. You have 40,000 people a year dying of
 20 tuberculosis. It is a huge -- or more. It is a, it's
 21 a, it's a horrendous epidemic. And if you have scarring
 22 inside your lungs you are more susceptible to the
 23 tubercular cilia. We don't understand the tubercular cilia
 24 particularly well at that time but they certainly draw a

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1 connection between silicosis in particular and the
2 tuberculosis epidemic at that time.

3 Q. Are they concerned about asbestosis and its
4 possibility to make tuberculosis worse?

5 A. Absolutely. In fact, in most, if you look back
6 in most of the early cases, the person also has
7 tuberculosis along with asbestosis.

8 Q. Is tuberculosis a big problem for us today?

9 A. Yes. Tuberculosis is reaching epidemic
10 proportion again today, especially in Europe, because we
11 now have drug-resistant strains of tuberculosis. I
12 mean, all of us have had TB shots and so on, and that's
13 a public health effort to prevent the disease. But, no,
14 today there are drug-resistant strains. You remember
15 the, a couple, some time ago there was an attorney who
16 had drug-resistant TB and travelled to Europe and had to
17 be brought back and kept in a very quiet place for some
18 time because we, we take that very seriously.

19 Drug-resistant TB is, it's a killer.

20 Q. Does lung scarring show up on x-rays?

21 A. Yes. You can and, you know, that's one of the
22 methods that the, the industrial hygiene public health
23 apparatus of that time would use. It would do x-rays of
24 workers to see -- in fact, they did them before they

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1 were employed. You want to be very careful not to
2 employ someone who has TB at that time because -- and
3 they, they knew this -- if you're in a dusty
4 environment, you have TB, you inhale the dust, you cough
5 out the dust, it has, you tend to find everybody else is
6 getting TB in the working environment.

7 Q. Does it show up on the x-ray before or after the
8 person has symptoms?

9 A. You know, in my interpretation of it, once the
10 person begins to have symptoms, especially early,
11 especially in these early years, you will begin to see
12 it on the x-ray.

13 Q. What was the view in the 1930s and '40s about
14 whether or not asbestos and asbestos-containing products
15 could be used safely?

16 A. Well again, going back to those reports, you
17 could go into a manufacturing facility and find that
18 some people were having no asbestosis whatsoever; others
19 were. And it was determined that you could create a
20 safe environment if you remained, if you kept the air in
21 that environment below the threshold limit value of five
22 million particles per cubic foot, and that's a number
23 that isn't changed until the 1960s.

24 Q. Is there anybody in the '30s or '40s or '50s who

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1 is writing in the published literature that asbestos
2 cannot be used safely?

3 A. No. It's, again, the A.C.G.I.H. will publish
4 this list of safe levels or threshold limit values every
5 year. It doesn't change. This is an accepted,
6 acknowledged industry that the product of which is, it's
7 around us right now, it's throughout American society
8 and industry, so it is, they do believe that they can
9 continue to have a safe asbestos industry.

10 Q. Is anybody writing the published literature in
11 the '40s or '50s that the asbestos TLV of five million
12 particles per cubic foot ought to be lowered to some
13 smaller number?

14 A. There's no, nothing in the published literature
15 that says that the TLV should be lowered.

16 Q. Is there anything in the literature with regard
17 to the petroleum industry that would indicate that
18 asbestos, the belief was that asbestos could be used
19 safely back in the '30s, '40s, and '50s?

20 A. There's a report within the petroleum industry
21 that's generated in 1937 -- this is a year before the
22 Dreessen report that I talked about earlier -- where
23 they addressed a lot of different potential exposures to
24 dust within that industry, but there's a specific

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1 section that looks explicitly at asbestos, at the use of
2 asbestos insulation on refineries and the dust levels
3 that one might be exposed to at various parts of the
4 refinery installing asbestos insulation. And this
5 report was certainly, people that were a party to the
6 report were part of the American Petroleum Institute
7 which included all major petroleum refineries in the
8 United States at that time. And this organization, the
9 A.P.I., which we hear about today every day -- they're
10 the ones that explain how gas, why gas prices are going
11 up and down -- they date to World War I, and they have a
12 safety phase of that and that is part of why this
13 literature is generated.

14 Q. Was there anything in the published literature in
15 the '40s and '50s about whether applicators of asbestos-
16 containing pipe and block insulation faced an asbestos
17 risk in their jobs?

18 A. There will be a, the largest study ever done --
19 and frankly that ever will be done -- of workers
20 applying asbestos-containing insulation, that will take
21 place in 1946 and these are insulators working aboard
22 ships being mass produced for World War II by the
23 Maritime Commission and by the U.S. Navy. We built more
24 ships in that time than ever in the history of the

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1 world. They could build a liberty ship in one day,
 2 bottom up, put it in the ocean. There was a survey of
 3 over a thousand insulators at that time. They found
 4 only three with asbestosis and determined that these
 5 particular individuals had a long-term prior exposure in
 6 the asbestos industry and determined -- and this is a
 7 study conducted by Philip Drinker, who's a renowned,
 8 probably the most preeminent dust expert of the 20th
 9 century, the inventor, recognized worldwide as the
 10 inventor of the iron lung, Harvard professor --

11 Q. Let me interrupt you there. We had some
 12 testimony earlier in the week about maybe Drinker wasn't
 13 really the inventor of the iron lung. What is your
 14 reaction to that? Apparently you've studied the record.

15 A. Yes. You know, as a historian I'm sort of
 16 saddened by that because, you know, that's -- the
 17 president of the United States contracted polio at that
 18 time. This was a huge epidemic, and it was an amazing
 19 engineering achievement by Philip Drinker to produce the
 20 iron lungs that enabled people with polio -- and some of
 21 us can remember, you know, what the impact of polio was
 22 on our society here. He's recognized throughout the
 23 world as the inventor of the iron lung. And so I, I
 24 guess we forgot some of these things as we go through

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1 history. But this, this study, the Fleischer-Drinker
 2 study is a definitive study and it finds that applying
 3 pipe insulation is, quote, a safe occupation.

4 Q. Let me just quickly --

5 MR. FISCHER: Your Honor, may I
 6 approach? I have some documents I would like
 7 Dr. Neushul to chat about with the jury.

8 THE COURT: Certainly.

9 Q. (By Mr. Fischer) Dr. Neushul, I've got four
 10 documents here. Could you just take a look at those,
 11 please?

12 A. (Witness complied with the request.)

13 Q. Did I ask you to look into the question of
 14 whether Dr. Drinker was, in fact, the inventor of the
 15 iron lung?

16 A. You did mention that to me and I, of course,
 17 already knew that.

18 Q. What are the documents that you have there?

19 A. Here is a, a headline from the Boston Harold
 20 dated September 22, 1931, and it's entitled 'Drinker and
 21 Shaw Win Medals For Invention of Respirator', and
 22 Drinker was working with another person at Harvard when
 23 he did this work. They used vacuum cleaner motors to --
 24 remember, when you have polio you lose nervous control

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1 over your, your body so you're just, you're going to
 2 suffocate so you have to breathe and they put you in a
 3 chamber and changed the air pressure using vacuum
 4 cleaner motors, and that's the basis for the iron lung.

5 There's a picture of an iron lung --

6 Q. Could I interrupt you for just one second? Let's
 7 make sure. Is it -- which Drinker is it?

8 A. This is Philip Drinker.

9 Q. Okay. Did he have a brother?

10 A. He did. His brother's name is Cecil Drinker.

11 He's a very famous physiologist who also worked at
 12 Harvard University, along with his sister-in-law,
 13 Katherine Drinker; she also worked at Harvard.

14 Q. How do you know so much about the Drinker family?

15 A. Because I've been to Harvard and I've used Philip
 16 Drinker's papers. There is lots of correspondence.

17 Q. Are you sure it wasn't Cecil Drinker that was the
 18 inventor of the iron lung?

19 A. No, I'm absolutely sure that it's Philip Drinker.

20 Q. Okay. What are the other documents you have
 21 there?

22 A. Okay. Here is a paper, or an article in 1955
 23 entitled 'First Iron Lung Drama Retold by Professor
 24 Drinker'. You go down about five lines, it's Professor

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1 Philip Drinker of the Harvard School of Public Health,
 2 Inventor of the Drinker Respirator, 25th anniversary of
 3 the event. So this, by the way, is an example of
 4 primary documentation. This is a newspaper article.
 5 It's published in 1955. Nobody's going to go back and
 6 change this. It is what it is.

7 Here's a picture of an iron lung and it's an
 8 article with, dated 12 October 1928 and, you know, you
 9 can see a picture there of someone in an iron lung. I
 10 think there may still be some of these in use in the
 11 United States today.

12 This is a Hall of Fame Inventor Profile that
 13 has a picture of Philip Drinker and a detailed
 14 description of the impact of his invention and his
 15 biography and the dates of his life.

16 So those are these four documents. But if
 17 you do a literature search on any newspaper database,
 18 enter key words 'Philip Drinker', 'iron lung', you will
 19 be showered with articles on the topic.

20 Q. Okay. I'm sorry. I interrupted you. You were
 21 talking about the Fleischer-Drinker study and that
 22 Dr. Drinker was one of the authors of that study.

23 A. Yes. Philip Drinker is really the preeminent
 24 dust expert on dust disease in the United States at this

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1 time. When you begin to do the amount of building that
 2 we did during World War II, you put thousands of people
 3 to work in an effort to, of course, win the biggest war
 4 in the history of the world -- you have to literally
 5 build more ships faster than the Germans can sink them
 6 -- so you have, all of a sudden, thousands of people
 7 working in dusty environments. The government turns to
 8 Philip Drinker and says, Do a survey of our shipyards,
 9 focus on dust. You know, we have a huge number of
 10 people working with insulation and we have specified
 11 that this insulation must, absolutely must contain
 12 asbestos.

13 Q. Doctor, let me, let me just ask you to tell us
 14 about the conclusions of the Fleisher-Drinker study.

15 A. The conclusion is that the occupation of applying
 16 pipe insulation aboard a ship is a safe occupation.

17 Q. When, if ever, was that conclusion challenged in
 18 the published medical literature?

19 A. That conclusion isn't going to be challenged
 20 until the 1960s with the work of Irving Selikoff. He
 21 will look extensively, not at this same number but at a
 22 large number of insulators in the 1960s and determine
 23 that it is not a safe occupation.

24 Q. Is there anything in the medical or scientific

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1 literature between the time Fleisher-Drinker is
 2 published in 1946 and the Selikoff study that is in any
 3 way critical of the Fleisher-Drinker study?

4 A. No. The Fleisher-Drinker study stands alone for
 5 a long, long time. I mean, it's very rare even today to
 6 do a study of over a thousand people in a specific
 7 occupation, and so they find, you know, they found no,
 8 essentially no cases.

9 Q. Was Fleisher-Drinker published?

10 A. Yes.

11 Q. Was it published in a reputable journal?

12 A. Yes. It's published in the American Industrial
 13 Hygiene Journal.

14 Q. You mentioned Willis Hazard before. What's the
 15 connection between Willis Hazard and the Fleisher-
 16 Drinker study?

17 Well, first of all, tell us who Willis
 18 Hazard is. I'm sorry.

19 A. Okay. Willis Hazard is a Harvard graduate and a
 20 student of Philip Drinker's. He goes and studies at
 21 Harvard. He works with Philip Drinker. I think they
 22 had a very close relationship. When Drinker retires
 23 Hazard is invited to give a speech at his retirement
 24 party. They certainly corresponded with one another.

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1 Really Hazard is building on what Drinker's report was
 2 and he's specifically very interested in dust. Hazard
 3 will be; obviously Drinker was. They have a
 4 relationship. They patented dust removal technologies
 5 together. They held at least two patents together. So
 6 they had a close working relationship, and certainly
 7 that's not unusual in a college environment for a
 8 professor to stay in touch with a student. But Hazard
 9 will stay in the industrial hygiene field and was
 10 certainly very much aware of Drinker's work during World
 11 War II and all of his work throughout his career. There
 12 are not that many people in the world who study dust as
 13 closely as people like Drinker and Hazard, and both are
 14 highly, you know, recognized in the field of industrial
 15 hygiene. They will both win, for example, the Cummings
 16 Award, which is the top prize that can be awarded in the
 17 field of industrial hygiene.

18 Q. Where did Hazard go after he leaves Harvard?

19 A. Hazard will work for Owens-Illinois in the early
 20 1930s up until World War II and will work for the
 21 government. And afterwards, in 1946, he will return to
 22 work for Owens-Illinois, again as an industrial
 23 hygienist. In a sense the company, when they hire him,
 24 are getting a wealth of knowledge specifically about

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1 dust and they're concerned with dust. They are a
 2 sand -- they are a company that deals with silica all
 3 the time. They're a glass company. And so they need,
 4 they want someone like Willis Hazard, who is very, very
 5 knowledgeable on the impact of dust and disease.

6 Q. Did Hazard read the Fleisher-Drinker study?

7 A. Of course he read the Fleisher-Drinker study.

8 Q. How do you know?

9 A. Well, first of all, you always read everything
 10 that your mentor writes -- I can tell you that from
 11 personal experience -- but, he's testified -- Hazard's
 12 passed away but he's testified on numerous occasions
 13 that, yes, I read the Fleisher-Drinker report.

14 Q. What did Owens-Illinois know in the 1940s and
 15 1950s about whether or not asbestos was capable of
 16 causing the disease asbestosis?

17 A. Owens-Illinois knew that asbestos was capable of
 18 causing asbestosis, the medical community knew that
 19 asbestos was capable of causing asbestosis, and
 20 certainly Willis Hazard absolutely knew that asbestos
 21 could cause asbestosis.

22 Q. Asbestos can cause asbestosis. How were people
 23 protecting against asbestosis?

24 A. Well, they're taking the same approach that was

1 taken when the disease first began to manifest itself.
 2 They know that some people in a working environment in
 3 less dusty areas are not going to contract asbestosis.
 4 You need to maintain a safe dust level, a dust level
 5 below the threshold limit value, and you will not see
 6 the disease amongst workers.

7 Q. How, what specific methods were in common use in
 8 the '40s and '50s to keep the dust levels low?

9 A. Well, there's certainly ventilation; ventilation
 10 around grinding or sawing equipment that technologies,
 11 like roto-clones that will suck out massive amounts of
 12 air and deposit the dust in filter sacks. You could
 13 have respirator technology in areas where there's a
 14 possibility that a worker using a saw might momentarily
 15 be exposed to a level above the TLV; then, in that
 16 particular station, you might utilize a respirator
 17 technology.

18 Q. How about more basic things than those kinds of
 19 things?

20 A. There could be housekeeping procedures; you know,
 21 people moving through the plant on a regular basis
 22 insuring that the conditions, the dust never built up in
 23 the plant. You could have -- there is signage certainly
 24 warning people that, you know, you need to be clean, you

1 need to wear your respirator.

2 Q. How about wet down?

3 A. Wetting down, that's something that's mentioned
 4 as early as the 1930s directly related to the, to
 5 refineries. If you're going to be removing asbestos-
 6 containing materials or disturbing asbestos, if you use
 7 a fine, a fine sheet of water, if you spray water over
 8 the operation you're going to keep the dust down.

9 Q. Was asbestos considered a toxic substance in the
 10 1940s and '50s?

11 A. No. In fact, on the list of threshold limit
 12 values there's lists of different dusts. There are
 13 toxic dusts and there are non-toxic dusts. Asbestos
 14 does not enter your bloodstream. Asbestos is not a
 15 poison. It's not listed as a toxin at that time.

16 Q. Would a product that contained a percentage of
 17 asbestos be considered toxic in the 1940s or 1950s?

18 A. I mean, it would depend on what else was in that
 19 product, of course, but, no, asbestos is not considered
 20 a toxic material at that time.

21 Q. In 1958 if an industrial hygienist wanted to go
 22 out and find the available literature with regard to the
 23 use of asbestos-containing products, what would that
 24 person find?

1 A. Well, I mean, you can -- I can do this today
 2 because you have indexes, industrial indexes from 1958.
 3 You can look and see what, look through the, look in the
 4 index for the word 'asbestos' or 'insulation' and there
 5 will be lists of articles that describe, you know, the
 6 product, its use, and so on.

7 Q. What would be the leading article they would find
 8 at that time if they went to look?

9 A. Is this in reference to a specific product or --

10 Q. No, in reference to the use of asbestos-
 11 containing insulation products in the field.

12 A. You know, certainly you would discover the
 13 Fleisher-Drinker report. You would see this was the
 14 most extensive study done of people using asbestos-
 15 containing products in the, it's published in 1946 and
 16 you would see that it is a, considered to be a safe
 17 occupation.

18 Q. How many asbestos-containing products were on the
 19 market in the 1950s?

20 A. Thousands.

21 Q. How many of them had warnings?

22 A. None.

23 Q. When do the first warnings appear on asbestos-
 24 containing products in the United States?

1 A. Well, we're going to become very concerned with
 2 asbestos during the mid-1960s starting with the work of
 3 Dr. Irving Selikoff in that he will become personally
 4 involved in alerting the public to the dangers of
 5 potential hazards of asbestos. That, of course,
 6 coincides with the environmental mood of the 1960s, the
 7 creation of agencies like the Consumer Safety
 8 Commission, government entities that would provide an
 9 avenue or promote the use of warnings.

10 Q. Mr. McCoy this morning showed a couple of
 11 documents involving correspondence with the Saranac
 12 Laboratory. What's the Saranac Lab?

13 A. The Saranac Laboratory is, or started as one of
 14 the leading centers for studying tuberculosis. In fact,
 15 the gentleman who I believe wrote the letter that he
 16 read, Dr. Leroy Upson Gardner, he had tuberculosis. He
 17 had a personal interest in studying the disease at the
 18 Saranac Laboratory. He was also the world's leading
 19 expert on silicosis. Of course, as we know, there's a
 20 connection between silicosis and tuberculosis. That
 21 laboratory was the leading laboratory in the nation, if
 22 not the world, for looking at dust-borne disease.

23 Q. What was the relationship between Owens-Illinois
 24 and the Saranac Laboratory?

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1 A. Well again, Owens-Illinois is a company that's
 2 using a lot of Silicote. They make glasses, you know,
 3 tableware, bottles, almost -- they are the largest
 4 producer of bottles at that time. So they're very
 5 concerned with a potential for silicosis at their
 6 manufacturing facilities and they have a long-term
 7 relationship with the Saranac Lab to study the various
 8 products that they're using, the processes that they're
 9 using to insure that they're maintaining safety. This
 10 is not the, when they decide to make a product that
 11 contains Silicote and asbestos, it's not the first time
 12 that they've dealt with the Saranac Laboratory. That's
 13 part of their procedure.

14 Q. What's the purpose of the study that kicks off in
 15 1943 that Mr. McCoy referred to?

16 A. Well, they've decided to go into a new industry.
 17 I think they're interested in finding out if the
 18 autoclave process -- the process in which they're
 19 heating up the sand, the silica, the asbestos, the
 20 ditamaceous earth, the lime, the various components of
 21 what will become Kaylo -- if, when they heat it up, it
 22 changes the composition of those. Is the dust from the
 23 super-heated materials going to be a potential hazard
 24 after it's heated up?

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1 Q. Mr. McCoy pointed to the document and said that
 2 because you're starting out with asbestos and silica you
 3 have all the ingredients for a first-class hazard. You
 4 heard him say that?

5 A. I have -- I heard that and I have seen the letter
 6 that he was reading from.

7 Q. Okay. What does that mean in 1943?

8 A. Well, in 1943 we knew that silica could cause
 9 silicosis. In 1943 we knew that asbestos could
 10 potentially cause asbestosis.

11 Q. So --

12 A. Certainly Dr. Gardner, being the world's expert
 13 on silicosis, knew that silica could cause silicosis.

14 Q. So why did they do the study?

15 A. Again, they're doing the study to see -- that is
 16 one letter in a long series of letters, a long series of
 17 reports, the final results of which are published in the
 18 open literature. They're trying to find out if the
 19 process will render these materials no longer dangerous
 20 at all and they're halfway, they're halfway right in
 21 that result, as I think was pointed out in a later
 22 documentation.

23 MR. FISCHER: Mr. McCoy, I'm looking for
 24 the exhibit that you used, the 1948 letter.

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1 Thank you very much.

2 Q. (By Mr. Fischer) Okay. Mr. McCoy also indicated
 3 or read from a November 16, 1948, letter. Did you hear
 4 that?

5 A. I think I heard part of that. I was sitting in
 6 the back of the room so I did hear some of it.

7 Q. Okay. Well, the last sentence was after, the
 8 last sentence: 'Thus, the company, being forewarned,
 9 will be in a better position to institute adequate
 10 control measures for safeguarding exposed employees and
 11 protecting its own interests.' Are you familiar with
 12 that?

13 A. Yes.

14 Q. What are they talking about, 'institute adequate
 15 control measures'?

16 A. They're talking about insuring that within their
 17 workplace, which obviously they've been doing with
 18 silica because they're concerned about silicosis since
 19 the, virtually the, for many years with that company --
 20 they're concerned that in working with these materials
 21 when you're manufacturing it that you insure that
 22 you're staying within a safe level. And, of course,
 23 they have Willis Hazard overseeing that process but they
 24 bring the Saranac Laboratory in, say, look, we want you

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1 to bring your scientists out to our manufacturing
 2 facility and measure the dust levels, check our
 3 manufacturing equipment to make sure that we're staying
 4 at safe levels, and so Saranac will come out. Thomas
 5 Dirken will be one of the chief hygienists from Saranac
 6 Laboratory who will personally go out to the Owens-
 7 Illinois manufacturing facility and take dust
 8 measurements. They, Owens-Illinois -- and they have
 9 done this before -- but they also say, look, we would
 10 like you to evaluate chest x-rays of all of our workers
 11 on a regular basis to insure that none of them are
 12 developing asbestosis or silicosis.

13 Q. Did Saranac tell Owens-Illinois to stop selling
 14 Kaylo?

15 A. No.

16 Q. Did Saranac tell Owens-Illinois to take the
 17 asbestos out of Kaylo?

18 A. No.

19 Q. Did Saranac tell Owens-Illinois that Kaylo cannot
 20 be used safely?

21 A. No.

22 Q. Is there anything in the Saranac report about
 23 cancer?

24 A. In the final publication that's published --

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<p>1 actually the lab, Saranac Laboratory publishes it 2 without the knowledge of Owens-Illinois but, you know, 3 that's fine -- therein notes that there is, quote, no 4 neo-plastic change seen in the animals that they're 5 looking at.</p> <p>6 Q. What does that mean?</p> <p>7 A. That there's no cancer; they're not finding 8 tumors or things in the animals that they've looked at.</p> <p>9 Q. Was the Saranac study published in the open 10 literature?</p> <p>11 A. Yes.</p> <p>12 Q. What kind of journal was it published in?</p> <p>13 A. In the American Industrial Hygiene Journal.</p> <p>14 Q. So it was available to everyone who was a 15 subscriber to those kinds of journals?</p> <p>16 A. Yeah. You can go to any university library that 17 has a, especially ones with a medical school, you can 18 pull it off the shelf and read it.</p> <p>19 Q. What are your opinions about Owens-Illinois' 20 attitude toward safety and health in the 1940s and 1950s 21 as it applies to this Kaylo product and asbestos?</p> <p>22 A. They employed one of the leading industrial 23 hygienists of the, you know, of the 20th century there: 24 He was a student of Philip Drinker's, Cummings Award</p>	<p>1 hearing of the Jury and the 2 reporter, after which the 3 following proceedings were had in 4 open court.)</p> <p>5</p> <p>6 THE COURT: At this time we'll break for 7 lunch. In just a minute I'm going to turn you over to 8 the charge of the bailiffs for lunch. They will again 9 escort you to lunch. You will be going to the 10 Candlelight Restaurant today.</p> <p>11 As I've told you before, you may not yet 12 discuss this matter among yourselves or with anybody 13 else. Do not allow anybody else to discuss it with you 14 or in your presence. Do not listen to any radio 15 broadcasts or refer to any newspapers that might contain 16 any information about this case.</p> <p>17 With that, you are released for lunch. We 18 will reconvene at 1:30.</p> <p>19</p> <p>20 (Whereupon the Jury was excused.)</p> <p>21</p> <p>22 (Witness excused.)</p> <p>23</p> <p>24</p>
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<p>1 winner, published numerous papers, corresponded with all 2 of the leading experts on dust throughout his career. 3 He understood what asbestosis was. He understood how to 4 create a safe working environment for their employees. 5 He got this leading laboratory to come out to their 6 facility, take dust measurements, evaluate regular chest 7 x-rays. They had no incidences of asbestosis amongst 8 their workers. To go to that extent and then have the 9 results of the experiment, have them be published in the 10 open literature, I think that within the context of that 11 time is exemplary. It's very unusual because there's no 12 government agency saying that you must do this, you must 13 test all these products before you can put them out on 14 the open market. That's not part of the way business 15 was done at that time. There is no -- none of the 16 agencies that exist now in post-1960s, '70s, this era, 17 existed at that time.</p> <p>18 MR. FISCHER: Those are all the 19 questions I have for you, Dr. Neushul. Thank you.</p> <p>20 THE WITNESS: Thank you.</p> <p>21 THE COURT: Counsel, approach, please.</p> <p>22</p> <p>23 (Whereupon a discussion was had by 24 the Court and counsel out of the</p>	<p>1 (Whereupon the following 2 proceedings were had in open court 3 out of the presence of the Jury.)</p> <p>4</p> <p>5 THE COURT: The jury is coming back at 6 1:30. We still have to talk about instructions. We 7 still have to do -- we still have cross examination and 8 potentially redirect. We have the jury instruction 9 conference and changes that need to be made most likely 10 to those -- it's going to take some time -- then we 11 have, what, plaintiff is estimating maybe a total of two 12 hours of final, of closing argument?</p> <p>13 MR. McCOY: I would say more like an 14 hour and a half.</p> <p>15 THE COURT: Well, that's the initial but 16 you will have some rebuttal, right?</p> <p>17 MR. McCOY: Yeah. I think the total is 18 about an hour and a half is what I'm saying.</p> <p>19 THE COURT: Half an hour at the most, I 20 mean, at least for the defense if it has two hours. I 21 don't see any way we're going to finish up today.</p> <p>22 MR. FISCHER: Right.</p> <p>23 THE COURT: And my preference -- I will 24 listen to what you all have to say. My preference is if</p>

<p style="text-align: right;">Page 58</p> <p>1 -- we don't want to do closing arguments today and have 2 them come back and start deliberating on Monday, do we? 3 MR. FISCHER: No. 4 THE COURT: I assume we want to start 5 out with the closing arguments Monday morning and do, 6 then I will read the instructions and let them start 7 right then. Is everybody agreeable with that? 8 MR. FISCHER: Yes. 9 THE COURT: Okay. 10 MR. CASMERE: The only thing I would say 11 is that when we end today, I think we should tell the 12 jury that the closings will be on Monday so that they 13 know that we will be done on Monday or they will have 14 the case on Monday. 15 THE COURT: Right, right. I agree, and 16 we're going to go over one day more than what we thought 17 we would. 18 MR. LARGE: When are we going to do the 19 instructions? 20 THE COURT: Well, it looks to me like 21 we're going to be done fairly early this afternoon so 22 after we get done we'll send the jury home, take a 23 little bit of time, and sit down and do our formal jury 24 instruction conference and hash out whatever needs to be</p>	<p style="text-align: right;">Page 60</p> <p>1 in. 2 3 (Whereupon the Jury returned to the 4 courtroom, after which the 5 following proceedings were had.) 6 7 THE COURT: We're ready to resume 8 testimony now. Dr. Neushul has retaken the stand and is 9 reminded that he's still under oath and we're ready for 10 cross examination. 11 Mr. McCoy? 12 MR. McCOY: Thank you, Judge. 13 14 CROSS EXAMINATION 15 BY MR. McCOY: 16 Q. Doctor, I just want to go back in time a little 17 bit and before -- you were contacted by Owens-Illinois 18 lawyers some time in the past to do work on asbestos 19 cases, right? 20 A. Attorneys representing Owens-Illinois did contact 21 me some time ago. 22 Q. Okay. About how long ago? 23 A. I think it was probably around 2000. 24 Q. Okay.</p>
<p style="text-align: right;">Page 59</p> <p>1 hashed out then. That way you can have them all ready 2 to go Monday morning. 3 MR. FISCHER: Sounds good. 4 THE COURT: All right. See you all at 5 1:30 unless there is something we need to discuss 6 before. 7 MR. FISCHER: No, sir. 8 THE COURT: Okay. 9 10 (Whereupon a lunch recess was 11 taken, after which the following 12 proceedings were had in open 13 court.) 14 15 (Witness resumes the witness 16 stand.) 17 18 THE COURT: Are we ready to have the 19 jury brought back? 20 MR. McCOY: Yeah, we're all set, Judge. 21 THE COURT: Okay. We're going to start 22 with Mr. McCoy's cross examination. Is that correct? 23 MR. McCOY: Yes. 24 THE COURT: Okay. Let's bring the jury</p>	<p style="text-align: right;">Page 61</p> <p>1 A. 2001. 2 Q. And before that time you did not have any kind of 3 background in asbestos to speak of, right? 4 A. I had not ever focused on that topic before. I 5 was aware of the topic as I've looked at American 6 environmental history but I had never focused in detail 7 on the topic. 8 Q. Did you agree to work for the Owens-Illinois 9 lawyers then after they contacted you? 10 A. The attorneys contacted me and sent me material 11 to read and it was primarily depositions with a lot of 12 the older gentlemen who might, maybe they would be here 13 in my place, people who had worked for Owens-Illinois 14 like Lewis Hazard -- Willis Hazard, and had me look at 15 those. At that point I wasn't aware whether they were 16 working for a plaintiff or working for a defendant. 17 Then I had a meeting with them and they talked to me 18 about the possibility of commenting on the history of 19 that topic. 20 Q. "They" meaning the Owens-Illinois lawyers? 21 A. These were attorneys who worked for or 22 represented Owens-Illinois. 23 Q. Okay. And when was that meeting? 24 A. I believe, you know, we had a -- there was a</p>

<p style="text-align: center;">Page 62</p> <p>1 series of meetings that took place in 2000, beginning of 2 2000.</p> <p>3 Q. Okay. And as a result of those meetings, what 4 was your understanding about your role or your 5 assignment?</p> <p>6 A. Well, they were describing, or having me look at 7 events that took place some time ago in the 20th century 8 -- you know, fifty, as many as a hundred years ago -- 9 and that's the period that I study. I look at the 20th 10 century, and I thought, well, I certainly, I've looked 11 at history of medicine during this period, I've looked 12 at history of technology during this period, I've looked 13 at American history during this period. I focus, a lot 14 of my work is focused on World War II, which is, of 15 course, very pivotal to this story --</p> <p>16 Q. Doctor --</p> <p>17 A. -- and so I --</p> <p>18 Q. Doctor, I just kind of wanted you to give an 19 answer to the question that I asked here.</p> <p>20 Your assignment from the Owens-Illinois 21 lawyers was to work on the asbestos cases. Is that your 22 understanding?</p> <p>23 A. It was to look --</p> <p>24 MR. FISCHER: I just ask that the</p>	<p style="text-align: center;">Page 64</p> <p>1 Q. All right. And your appearance here today then 2 is \$300 an hour?</p> <p>3 A. For the time that I'm giving testimony, yes.</p> <p>4 Q. Over the time period going back to 2000, how much 5 money has, have you received from the lawyers for 6 Owens-Illinois?</p> <p>7 A. It's difficult for me to say. When I began I 8 didn't do very much work early on; in the last few years 9 I've done a considerable amount of work. So, at least 10 initially I might have made \$20,000 in a year off of 11 that work in the early years that I did it and of late 12 that has increased.</p> <p>13 Q. What did you get in the year 2007?</p> <p>14 A. In 2007 I may have made in excess of \$70,000.</p> <p>15 Q. Is it fair to say that you've been paid over time 16 at least \$300,000 from Owens-Illinois lawyers?</p> <p>17 A. If I were to look at that six-to-seven-year 18 period it may well be as much as that.</p> <p>19 Q. How many cases for Owens-Illinois are you working 20 on right now?</p> <p>21 A. Probably less than six. But there may be cases 22 where I've been presented as someone that might testify 23 that I'm not aware of so there may be more.</p> <p>24 Q. Okay. Ones where you were named but you didn't</p>
<p style="text-align: center;">Page 63</p> <p>1 witness not be interrupted.</p> <p>2 THE COURT: Okay. If you recall the 3 question, sir, you may begin your answer again.</p> <p>4 THE WITNESS: Maybe you could -- could 5 you repeat the question because I want to answer it 6 accurately.</p> <p>7 Q. (By Mr. McCoy) The last question was basically 8 your understanding of your assignment was to provide 9 testimony in connection with the Owens-Illinois asbestos 10 cases. Is that right?</p> <p>11 A. Eventually -- at first they were having me look 12 at the historical documents. Then they discussed 13 describing in testimony the context, the historical 14 context of those documents or those events that took 15 place with them.</p> <p>16 Q. You may have to pull that microphone a little bit 17 or lean forward or something. You're a little bit 18 faint.</p> <p>19 How much do the Owens-Illinois lawyers pay 20 you?</p> <p>21 A. If I'm doing research, reading depositions -- and 22 that could be research that's specific to a site or to a 23 specific topic -- I charge \$150 an hour. If I'm giving 24 testimony I charge \$300 an hour.</p>	<p style="text-align: center;">Page 65</p> <p>1 know it as a witness?</p> <p>2 A. It's possible, yes.</p> <p>3 Q. Have you ever refused to testify in a case for 4 Owens-Illinois?</p> <p>5 A. Not as of yet, no.</p> <p>6 Q. And your work has all been asbestos cases for 7 Owens-Illinois, right?</p> <p>8 A. The work that I have done for attorneys 9 representing Owens-Illinois has always dealt with this 10 issue, the Kaylo.</p> <p>11 Q. Is there any other work you've done for Owens- 12 Illinois or its lawyers besides asbestos cases?</p> <p>13 A. No.</p> <p>14 Q. Fine. And just to clarify a couple things, I 15 know you've given us your C.V. here, and your Ph.D. is 16 in history, right?</p> <p>17 A. Yes, my Ph.D. is in history.</p> <p>18 Q. Okay. Master's is in history?</p> <p>19 A. That's correct.</p> <p>20 Q. Bachelor's is in history?</p> <p>21 A. That's correct.</p> <p>22 Q. Don't get me wrong. I mean, I like history. I'm 23 a big history buff. I just want to make clear that's 24 your educational background. You're not trained and</p>

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1 schooled as an industrial hygienist. Is that right?
 2 A. I'm not trained as an industrial hygienist but I
 3 am trained in the field of history of technology and I
 4 do study history of medicine, and industrial hygiene
 5 would fall within both of those fields so I can
 6 certainly use the tools from my field as a historian to
 7 look at the history of industrial hygiene.

8 Q. But you've never been out actually in the field
 9 and done the kinds of things that an industrial
 10 hygienist would do to sample air or to test exposures or
 11 those kinds of things, right?

12 A. I have looked at the history of that practice and
 13 how it has evolved over time looking at old publications
 14 within the field of industrial hygiene. Of course the
 15 way they do that now differs from the way they did it
 16 earlier in the century.

17 Q. My question was: Have you ever been out in the
 18 field and practiced industrial hygiene, sampled
 19 exposures and so on?

20 A. No, I'm not a practicing industrial hygienist.

21 Q. Basically you've just read some industrial
 22 hygiene materials, right?

23 A. Well, I've interviewed industrial hygienists from
 24 this prior time -- not current ones. I'm not

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1 particularly interested in current industrial hygiene.
 2 I'm looking at industrial hygiene at the turn of the
 3 century and beyond, so I've talked to individuals from
 4 that period, I've looked at their correspondence, I've
 5 looked at their publications. Again, as a historian
 6 what I'm looking at is what it was like then. I'm not
 7 looking at it now.

8 Q. Doctor, have you -- you're not a medical doctor
 9 either, right?

10 A. Well, you read my C.V. I'm a historian. I have
 11 what's called a Ph.D., not an M.D.

12 Q. And same thing: Your knowledge of medicine is
 13 from a historical perspective. Is that fair?

14 A. I look at medicine from a history of medicine.
 15 The sorts of journals that I would publish in are not
 16 medical journals. They're history of medicine journals.

17 Q. Have you been -- do you have any information
 18 about what Ray -- you understand this is the case of
 19 Raymond Tedford, right?

20 A. That's correct.

21 Q. Have you been provided information about Raymond
 22 Tedford's work, what he did at Texaco?

23 A. I have not been provided any information on what
 24 Mr. Tedford did at Texaco.

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1 Q. Have you worked on some oil cases involving, or
 2 history involving oil refineries before?

3 A. Yes, I have.

4 Q. So you've got some background in that, right?

5 A. I've visited oil refineries. I've looked at the
 6 plans for oil refineries. I've interviewed industrial
 7 hygienists that worked in oil refineries. I've done a
 8 lot of work in oil refineries.

9 Q. So you're aware of turnarounds?

10 A. That's correct.

11 Q. And you know those are events that are, regularly
 12 occur and are foreseeable in the oil industry, right?

13 MR. FISCHER: Objection, Your Honor.
 14 Calls for a legal conclusion.

15 THE COURT: Sustained as to the form of
 16 the question.

17 MR. McCOY: I'm sorry?

18 THE COURT: Sustained as to the form of
 19 the question.

20 Q. (By Mr. McCoy) Doctor, you are aware that
 21 turnarounds are regular events in the oil industry,
 22 right?

23 A. I've seen the term turnaround used to describe
 24 maintaining of a part of a refinery; not the entire

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1 refinery at the same time but they'll do it in phases in
 2 different parts of the refinery.

3 Q. Okay. And you're aware that that, those kinds of
 4 turnarounds would be going on year after year at
 5 refineries, right?

6 A. In order to maintain the safety of the refinery
 7 to keep it -- these are places that can be very
 8 dangerous. They have to be, yes, they have to be
 9 maintained regularly and insulation is an integral part
 10 of that.

11 Q. When -- you've done some study you said on the
 12 history of the Kaylo product, right?

13 A. That's correct, yes.

14 Q. And you have done some, or have gotten some
 15 information and done some research on what applications
 16 for which Kaylo was marketed, right?

17 A. I've looked at advertisements like the ones that
 18 you've displayed earlier this morning. I've looked at,
 19 I've tried to look at as many of those as I can. For
 20 example, there was a list of locations for those at the
 21 bottom of the advertisement that you were showing; I've
 22 gone and looked at all of those. It had a limited
 23 marketing campaign but what's available is available and
 24 it's all published.

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1 Q. And you're aware that Owens-Illinois, one of its
 2 markets was, or applications was the oil industry,
 3 right, the oil refineries?

4 A. Certainly that was one of the applications that
 5 they anticipated being applied at.

6 Q. As I understood what you said, there was
 7 information about asbestosis that was fairly well
 8 established by even in the 1930s. Is that accurate? I
 9 don't want to misstate your words. I just want to get a
 10 time reference.

11 A. Well, if you do a literature search you will find
 12 publications in the 1930s. I discussed, for example,
 13 the Dreessen report. We discussed the Merewether
 14 report. These are published in the open literature and
 15 contain information on asbestosis from the 1930s.

16 Q. And that connection was fairly well established
 17 in the literature, asbestos and the disease asbestosis,
 18 by sometime in the 1930s, right?

19 A. Certainly by 1938 when the Dreessen report is
 20 published here in the United States there was awareness
 21 that there's a connection between asbestos and scarring
 22 inside your lungs, or asbestosis, potentially.

23 Q. And in the history of the Kaylo business -- I'm
 24 going to use my chart.

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1 In the history of the Kaylo business,
 2 Doctor, Owens-Illinois first started a pilot marketing
 3 program for Kaylo in, what was it, about 1943?

4 A. My understanding was that Owens-Illinois began
 5 marketing and selling Kaylo between 1948 and 1958.

6 Q. That was on a full-scale basis, production basis,
 7 right?

8 A. I don't know that they ever went into huge scale
 9 production. They had two facilities for making it. It
 10 was never a major market component that I know of
 11 compared to other insulations but the dates that they
 12 made it were between 1948 and 1958 in Berlin, New
 13 Jersey, and Sayreville, New Jersey.

14 Q. Okay. Those were two factories Owens-Illinois
 15 had at those two locations?

16 A. Those were the two factories that manufactured
 17 products, the Kaylo products.

18 Q. Okay.

19 A. There's roof decking and door core and pipe
 20 insulation.

21 Q. Right. In this case we're only going to be
 22 concerned about the block and the pre-formed half rounds
 23 that would go on the pipe covering.

24 So if I understand this, you said 1948 to

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1 what year was the Kaylo production?

2 A. 1948 to 1958.

3 Q. Is that April, end of April, '58, right?

4 A. I believe in April 1958 they are no longer in
 5 charge of manufacturing Kaylo.

6 Q. All right. And you said 1938, by 1938 Dreessen
 7 had established asbestosis, right?

8 A. You can go back, probably if you want to look at
 9 British literature you can go back to earlier.

10 Q. Let's just stay with Dreessen.

11 A. Yeah, by 1938.

12 Q. U.S. literature, Dreessen.

13 A. That's right. And Dreessen's paper will
 14 establish the five million particles as a level which is
 15 termed as safe.

16 Q. Doctor, Owens-Illinois had some medical and
 17 industrial hygiene personnel that -- I know you made
 18 reference to Mr. Hazard as the industrial hygienist for
 19 Owens-Illinois, right?

20 A. That's correct.

21 Q. And I know you, you explained his, his excellent
 22 credentials that he had. I think he went to Harvard,
 23 right?

24 A. That's correct.

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1 Q. Okay. And when did he start working for Owens-
 2 Illinois?

3 A. He started working for Owens-Illinois I believe
 4 in 1934.

5 Q. 1934?

6 A. That's correct.

7 Q. Is it Mr. Hazard or Dr. Hazard?

8 A. It's mister.

9 Q. Mister?

10 A. Mr. Willis Gilpin Hazard.

11 Q. Right. So he was an industrial hygienist from
 12 Harvard?

13 A. Yes.

14 Q. And then, and then -- so he was on there -- he
 15 was working for Owens-Illinois throughout the time of
 16 the Kaylo production, right?

17 A. Well, he'll leave Owens-Illinois during World War
 18 II and work for the government during the war but will
 19 return in 1946. So he will be with Owens-Illinois
 20 throughout the production period, but, if you recall
 21 from our earlier discussion, the experiment that was
 22 done at Saranac Lake Laboratory took place before they
 23 went into production. That's in 1943 and onwards.

24 Q. Yeah. There was the research on the Kaylo

1 starting at least by 1943, right?
 2 A. That's correct.
 3 Q. It's getting a little crowded on there. We need
 4 to spread it out a little.
 5 Okay. So, there's another, there's a
 6 medical director over at Owens-Illinois, also, during at
 7 least some of this period of time, right?
 8 A. Dr. Charles Shook.
 9 Q. Okay. When did Dr. Shook start working for
 10 Owens-Illinois?
 11 A. I believe he started in 1946; it may have been
 12 earlier than that. He was a distinguished physician for
 13 the U.S. Army during World War II but I don't think he
 14 had a connection with Owens-Illinois before the war but
 15 I'm not absolutely sure of that.
 16 Q. And he was a licensed medical doctor, right?
 17 A. He is a medical doctor.
 18 Q. And I assume he's also a respected person within
 19 the, within the medical community, right?
 20 A. I've looked at his career and he was a very
 21 highly respected physician.
 22 Q. Right. He'd be, he would be a knowledgeable
 23 physician, right?
 24 A. Yes.

1 Q. Okay. And he was medical director for all of the
 2 Owens-Illinois company, right?
 3 A. As far as I know, he was, yes. They also had
 4 physicians on site. You know, he was not the only
 5 physician working for Owens-Illinois. They had other
 6 physicians at their factories and they also had nurses
 7 at the factories.
 8 Q. Right. And Dr. Shook, he was also copied even on
 9 some of the Saranac documents about the Kaylo testing,
 10 right?
 11 A. If you look at the, at the footnote at the
 12 bottoms of some of the letters I believe he is CCd on
 13 some of them.
 14 Q. Okay. So both Mr. Hazard and Dr. Shook are aware
 15 of what's going on with the Kaylo testing, right?
 16 A. They are certainly staying up with that research
 17 that the company is paying Saranac Laboratory to
 18 conduct.
 19 Q. They both would have known that in 1938 there was
 20 that Dreessen report about the asbestos causing
 21 problems, right, the asbestosis? They both would have,
 22 they both would have been aware of that, would you
 23 agree?
 24 A. In 1938 the medical community, including them,

1 was well aware that exposure to asbestos could cause
 2 asbestosis.
 3 Q. Doctor, Owens-Illinois, knowing about the
 4 Dreessen report and I think you said that set forth --
 5 and that's, that's the 1938 report, right?
 6 A. Dreessen was published in 1938, yes.
 7 Q. Okay. And I believe that was the start of that
 8 standard you said of the five million particles per
 9 cubic foot, right?
 10 A. Certainly that will be a source that the
 11 A.C.G.I.H., the American Conference for Governmental
 12 Industrial Hygienists, will look to when they're making
 13 a list of materials in establishing initially maximum
 14 allowable concentrations, but that term will later turn
 15 into threshold limit values, of which there's ones for
 16 other materials other than asbestos. There's one for
 17 lead. There's one for silica, which is the same five
 18 million particles per cubic foot. And so that paper in
 19 1938 will certainly be a source that the committee, the
 20 Threshold Limit Value Committee of this organization
 21 will look to.
 22 Q. Right. And that's, that five million particle
 23 per cubic foot standard, Mr. Hazard would have been
 24 aware of that, right?

1 A. Mr. Hazard certainly would have been aware of
 2 that, yes.
 3 Q. Dr. Shook would have been aware of it?
 4 A. I'm sure he was probably aware of it, yes. It
 5 was put in the published literature. It's put out every
 6 year.
 7 Q. Fine. And Mr. Hazard, he's an industrial-
 8 hygienist trained at Harvard so he could have -- the
 9 industrial hygienists, they are the ones who measure the
 10 levels of exposure to see whether these standards are
 11 exceeded, right?
 12 A. That certainly could be part of their function.
 13 Q. All right. And Mr. Hazard could have set up that
 14 program for Owens-Illinois' Kaylo along with Dr. Shook
 15 to test whether or not certain activities like cutting,
 16 sawing, sweeping, shovelling could have been above that
 17 five million particles per cubic foot with Kaylo.
 18 They could have done that, right?
 19 A. Well --
 20 THE COURT: Just a second, sir.
 21 MR. FISCHER: Thank you, Honor. We
 22 object. Calls for speculation and argumentative.
 23 THE COURT: Sustained as to form.
 24 Q. (By Mr. McCoy) Dr. Neushul, an industrial

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<p>1 hygienist such as Mr. Hazard could have set up a testing 2 program to see whether Kaylo exceeded the five million 3 particles per cubic foot standard in some of its uses 4 and applications, right?</p> <p>5 MR. FISCHER: Objection.</p> <p>6 THE COURT: Just a second, sir.</p> <p>7 MR. FISCHER: Objection. Calls for 8 speculation.</p> <p>9 THE COURT: Overruled. He can answer if 10 he knows.</p> <p>11 THE WITNESS: Well, I don't, of course 12 don't want to speculate but we know that they engaged 13 the nation's leading dust laboratory to come out and do 14 exactly that: An independent group of industrial 15 hygienists were employed from the Saranac Laboratory to 16 come out and look at every phase of the Kaylo process to 17 insure that it was remaining within safe levels, within 18 the TLV.</p> <p>19 Q. (By Mr. McCoy) Doctor, my question was simply 20 Mr. Hazard could have set up a program to test whether 21 certain Kaylo activities or uses would have exceeded 22 that five million particle per cubic foot standard. Is 23 that true?</p> <p>24 A. Well, I just -- he did.</p>	<p>1 (Whereupon a discussion was had by 2 the Court and counsel out of the 3 hearing of the Jury and the 4 reporter, after which the 5 following proceedings were had in 6 open court.)</p> <p>7</p> <p>8 MR. McCLOY: Do you want the last 9 question, should I have that last one read back?</p> <p>10 THE COURT: No, but I will have the last 11 question read back.</p> <p>12 All right. Miss Ackman, would you please 13 read back the last question?</p> <p>14</p> <p>15 (Whereupon the question found on 16 page 79 at line 15 was read 17 back by the reporter.)</p> <p>18</p> <p>19 THE WITNESS: My answer to that would be 20 that, yes, it was done out in the field by Philip 21 Drinker during World War II in 1946 in the study of over 22 a thousand insulators and it was determined at that time 23 that that was a safe occupation. There's no need. 24 Willis Hazard, we know, was very familiar with that</p>
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<p>1 Q. Okay. So he did. All right.</p> <p>2 Now you said he did it for the Owens- 3 Illinois -- what, what -- somebody did it at a plant of 4 Owens-Illinois. Is that what you said?</p> <p>5 A. Saranac Laboratory came to both of their plants.</p> <p>6 Q. Well, it was done at a plant -- that was just my 7 question -- right?</p> <p>8 A. They only have two plants.</p> <p>9 Q. Okay. Done at an Owens-Illinois plant, right?</p> <p>10 A. At the two plants.</p> <p>11 Q. Okay. What about out in the field? It was never 12 done out in the field, testing for what the exposures 13 would be for the Kaylo, right?</p> <p>14 A. Well, the study --</p> <p>15 Q. Doctor, was it done out in the field or not?</p> <p>16 A. The study that took place in 1946 of over a 17 thousand --</p> <p>18 MR. McCLOY: Your Honor --</p> <p>19 A. -- applicators --</p> <p>20 MR. McCLOY: Your Honor, please. I've 21 asked the witness a specific question, Your Honor. I 22 need an answer to that question.</p> <p>23 MR. FISCHER: Can we approach?</p> <p>24 THE COURT: Okay. Approach.</p>	<p>1 operation as were the dust experts at Saranac, the 2 independent laboratory that came and tested it on site, 3 so that data that was already available.</p> <p>4 MR. FISCHER: Your Honor, I think we 5 lost the microphone.</p> <p>6 THE COURT: Okay.</p> <p>7 Q. (By Mr. McCoy) Okay. What I'm asking you, 8 Doctor, is did Owens-Illinois with Mr. Hazard or 9 Dr. Shook set up a program to test out in the field what 10 the levels of exposure to Kaylo were during the 11 operations of cleaning up Kaylo such as putting it into 12 a wheelbarrow with a shovel? Was that done?</p> <p>13 A. That study was not done. That data was available 14 in detail from a World War II study that took place in 15 1946 before Owens-Illinois produced asbestos-containing 16 Kaylo.</p> <p>17 Q. And we'll get back to some of the other studies 18 later but it was not done by Owens-Illinois' people, 19 right?</p> <p>20 A. The study in 1946 was done by Philip Drinker who 21 is the preeminent expert on dust in the United States.</p> <p>22 Q. And was there any study done by Owens-Illinois to 23 see what the levels of exposure were in conditions that 24 looked like a snow storm removing Kaylo during a</p>

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1 turnaround at an oil refinery?

2 MR. FISCHER: Objection, Your Honor.
3 Foundation and argumentative.

4 THE COURT: Sustained.

5 Q. (By Mr. McCoy) Assuming, Doctor, that the
6 conditions during an oil refinery turnaround look like
7 snow from the removal of the Kaylo pipe covering and
8 block, did Owens-Illinois do any study to determine
9 whether those levels exceeded the TLV standards?

10 MR. FISCHER: Objection, Your Honor.
11 May we approach?

12 THE COURT: Okay. You may approach.

13
14 (Whereupon a discussion was had by
15 the and counsel out of the hearing
16 of the Jury and the reporter,
17 after which the following
18 proceedings were had in open
19 court.)
20

21 THE COURT: The objection to the
22 question is sustained.

23 Q. (By Mr. McCoy) Doctor, are you aware that
24 Owens-Illinois did any study of the level of exposures

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1 to Kaylo pipe covering and block during the turnaround
2 conditions where there was removal of the insulation?

3 A. The only study that comes to mind that looks at
4 that was not performed by Owens-Illinois. I know that
5 there was a study performed by Roy Bonsib of Standard
6 Oil that looked explicitly at dust from removal of
7 insulation and installation of insulation at a refinery,
8 and that's in 1937.

9 Q. Right. Okay. That's called the Bonsib Report?

10 A. It's a report by Roy Bonsib, yes.

11 Q. I have a copy of that report here. This is
12 something you've had a chance to review before?

13 A. I have looked at this report before, yes.

14 Q. Okay. I have some questions on it, so --

15 THE COURT: What is the marking on that?

16 MR. McCOY: I didn't put an exhibit
17 number on this but we could put our next number on it.
18 That would be 66.

19 Doctor, if you'll give me the first page of
20 your report I will put a marking on that. Okay.

21 Q. (By Mr. McCoy) Exhibit 66 is titled Dust
22 Producing Operations in the Production of Petroleum
23 Products and Associated Activities, and this is a study,
24 it says A Medico-Safety Survey by Roy Bonsib, right?

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1 A. That's correct. And he's the Chief Safety
2 Inspector, and it's ineligible after that, Standard Oil
3 Company.

4 Q. And it's 1937, right?

5 A. It is. And there's a foreword by the General
6 Medical Director of Standard Oil Company as well,
7 Willard Denno, D-e-n-n-o.

8 Q. This is a document which I think Mr. Hazard
9 certainly would be aware of. Is that right?

10 A. I think Mr. Hazard was, may well have been aware
11 of this. He certainly knew Roy Bonsib so it -- I don't
12 recall whether he states explicitly that he had read
13 this or not but he may well have been aware of it.

14 Q. And the information reported in here you said
15 would be something that could be relied upon by
16 Owens-Illinois in terms of levels of exposures to
17 products, right?

18 A. Well, it's a very thick report. There's a small
19 section of it that deals with dust related to removing
20 asbestos insulation or insulation containing asbestos,
21 so it is certainly a resource that was available for
22 data on that.

23 Q. For turnaround exposures, right?

24 A. I don't know that they're explicit in saying it's

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1 during a turnaround, but they do talk about installation
2 and removal of asbestos.

3 Q. Types of work that would go on in a turnaround,
4 right?

5 A. It may have taken place during a turnaround.
6 Q. So let's go to page 27.

7 A. (Witness complied with the request.)

8 Q. Did you find it? I'll help point you to the
9 parts I'm thinking about here. Got it?

10 A. Yes, I'm on page 27.

11 Q. Okay. And that's titled Section III, Insulating
12 Operations, right?

13 A. That's correct.

14 Q. Okay. And then if we go down to Part B there --
15 are you following with me here? Do you see it down
16 there at the bottom?

17 A. Yes.

18 Q. Okay. That's titled, What are the Principal
19 Insulating Operations and How Much Dust is Produced
20 During Such Operations, right?

21 A. That's correct. And they note after that that,
22 'There is, of course, a wide variation in the amount of
23 insulation work and the amount of dust produced.'

24 Q. Yeah. And they go on to say, [A few examples,

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1 however, will give a good general idea ', right?
 2 A. That's correct.
 3 Q. Okay. So first example they cite is insulating
 4 12-inch steam lines, right?
 5 MR. FISCHER: Your Honor, can we
 6 approach for a minute?
 7 THE COURT: Okay.

8
 9 (Whereupon a discussion was had by
 10 the Court and counsel out of the
 11 hearing of the Jury and the
 12 reporter, after which the
 13 following proceedings were had in
 14 open court.)

15
 16 Q. (By Mr. McCoy) Doctor, so staying with this
 17 Exhibit B which gives us the example of the insulating
 18 operations -- you see that part, right?
 19 A. You're talking about B on page 27?
 20 Q. Right. There is an example down there for
 21 insulating 12-inch steam line using block insulation,
 22 right?
 23 A. Blocks of 85 percent magnesia insulation, which
 24 means they are 85 percent magnesia and 15 percent

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1 particles per cubic foot. The standard for total dust
 2 is fifty million particles per cubic foot.
 3 Q. The original standard was five million
 4 particles --
 5 A. The threshold limit value for asbestos dust and
 6 asbestos dust only is five million particles per cubic
 7 foot.
 8 Q. All right. So we'll continue on here for a
 9 moment. The, the study of the asbestos exposures that
 10 you're talking about at the Owens-Illinois plants, when
 11 was that done? When was that one done?
 12 A. Are you talking about the study that Saranac Lake
 13 was employed to do of the manufacturing operations?
 14 Q. Right.
 15 A. Okay. That was done as part of the study that
 16 took place between 1943 and 1952 at the Owens-Illinois
 17 plants. I believe that was an ongoing study because
 18 they are looking at x-rays annually but I believe that
 19 took place I believe late in the 1940s.
 20 Q. And then there is a later study, right?
 21 A. There may be more than one survey that's done by
 22 Saranac.
 23 Q. There was a study done in the late, about 1958,
 24 right, about the time the business was sold?

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1 asbestos.
 2 Q. Okay. And those blocks produced exposures it
 3 says 'as high as 18,124,800 particles of less than ten
 4 microns per cubic foot', correct?
 5 A. That's correct. But you have to note that 85
 6 percent of that material is magnesia and 25 percent is,
 7 or, sorry, 15 percent is asbestos.
 8 Q. Right. And you understand from your brief
 9 knowledge of the Kaylo that Kaylo block and pipe
 10 covering contained between 13 and 20 percent asbestos,
 11 right?
 12 A. That's correct.
 13 Q. So Bonsib's got 18 million on steam line block,
 14 right? About three times the TLV, correct?
 15 A. No, that's not correct.
 16 Q. Go, go ahead and explain what you're talking
 17 about.
 18 A. Well, there's -- the TLV for a mixture that is
 19 not entirely asbestos is fifty million particles per
 20 cubic foot and so this is well below that particular
 21 standard for a total dust.
 22 Q. Well, the standard was originally one of total
 23 dust, right?
 24 A. The standard for asbestos dust is five million

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1 MR. FISCHER: Object to the form as
 2 vague.
 3 THE COURT: Overruled. The witness may
 4 answer if he knows.
 5 THE WITNESS: There may have been a
 6 study done after the plant was, no longer belonged to
 7 Owens-Illinois.
 8 Q. (By Mr. McCoy) All right. Let's talk about
 9 these TLVs for a moment and we'll come back to that
 10 other study later.
 11 The, the TLVs, these are not fine lines for
 12 whether someone is going to get disease or not get
 13 disease or not, right?
 14 A. The TLVs are described as guidelines and people
 15 can get asbestos-related diseases below the TLV, right.
 16 It was believed that they picked a very low number
 17 believing that if you stayed below the TLV you would not
 18 get asbestos-related disease.
 19 Q. Well, what the TLV book says, though, is they are
 20 not fine lines to determine safety, right?
 21 A. They've picked a low number, and it is a term,
 22 not a fine line but a guideline.
 23 Q. You mean there is no literature that says people
 24 never get sick for, from exposure below the, the TLV?

<p style="text-align: center;">Page 90</p> <p>1 Is that true?</p> <p>2 A. This particular literature that you're talking</p> <p>3 about, the TLV list is a guideline. That is not going</p> <p>4 to be revised until the late, until the 1960s so it's</p> <p>5 accepted as a level below which you were not going to</p> <p>6 get asbestosis.</p> <p>7 Q. Well, my question, Dr. Neushul, is the literature</p> <p>8 that we're talking about through the end of 1958, there</p> <p>9 is nothing in there that says no one will get sick if</p> <p>10 the exposures are below the TLV, right?</p> <p>11 A. I have seen no published literature saying that</p> <p>12 the TLV is ineffective in the time that you're</p> <p>13 describing about.</p> <p>14 Q. The TLV in place was one for asbestosis, right?</p> <p>15 A. Certainly that was their concern and they came up</p> <p>16 with a threshold limit value because we don't want</p> <p>17 people to get asbestosis. We're looking at factories.</p> <p>18 Some people are in industrial areas of the factory and</p> <p>19 some people are not in the industrial areas of the</p> <p>20 factory, which means you could conceivably find a level</p> <p>21 where nobody is going to have a case of asbestosis and</p> <p>22 that was the reason for implementing a threshold limit</p> <p>23 value.</p> <p>24 Q. All right. Let's -- I want to talk for a moment</p>	<p style="text-align: center;">Page 92</p> <p>1 that one right?</p> <p>2 A. Yes, you did.</p> <p>3 Q. Okay. So is it fair to say that at least by, at</p> <p>4 least according to Dreessen, that at least by 1937 that</p> <p>5 it was thought that asbestos fibers could be reaching</p> <p>6 the lungs to cause disease, right?</p> <p>7 A. Well, these are the case studies that I mentioned</p> <p>8 earlier. They will prompt Dr. Merewether to do a more</p> <p>9 complete study and, of the textile industry and that</p> <p>10 will lead to dust control and full measures being taken.</p> <p>11 Q. All right. So, just in answer to my question,</p> <p>12 Dr. Neushul, is it accurate to say Dreessen is stating</p> <p>13 that the reasons for believing that asbestosis bodies</p> <p>14 originate from asbestos fibers that reach the lungs was</p> <p>15 reported as early as 1927?</p> <p>16 A. That's correct by Cooke.</p> <p>17 Q. And he says a 'complete description', right?</p> <p>18 A. Yes.</p> <p>19 Q. So if we take 1927 and put in that Cooke --</p> <p>20 A. That's correct.</p> <p>21 Q. -- asbestosis bodies reach the lung.</p> <p>22 A. He's the one that describes the, quote, curious</p> <p>23 bodies, end quote.</p> <p>24 Q. Okay. And it goes on to state -- do you see that</p>
<p style="text-align: center;">Page 91</p> <p>1 about the Dreessen report. This is one you mentioned,</p> <p>2 right?</p> <p>3 A. Yes.</p> <p>4 Q. Okay. This one is Plaintiff's Exhibit Number 67.</p> <p>5 It's the Dreessen report, right?</p> <p>6 A. Yes, this is the report by Waldemar C. Dreessen</p> <p>7 published in 1938 as Public Health Bulletin Number 241.</p> <p>8 Q. Okay. And in this document, I want to talk for a</p> <p>9 moment about the beginning, early on section of this.</p> <p>10 Page one. Can you find that?</p> <p>11 A. Page one? Yeah.</p> <p>12 Q. Yeah?</p> <p>13 A. Yes.</p> <p>14 Q. And this states in here -- and I'm talking about</p> <p>15 the third paragraph now. Do you see it?</p> <p>16 A. Yes.</p> <p>17 Q. Okay. It begins, 'The first record of a case of</p> <p>18 asbestosis seems to have been made by Montague Murray in</p> <p>19 1900. The first complete description of the disease and</p> <p>20 of the "curious bodies", that's in quotes, 'seen in</p> <p>21 lung tissue and sputum appeared in 1927 when Cooke and</p> <p>22 McDonald reported two cases of asbestosis and listed the</p> <p>23 reasons for believing that asbestosis bodies originate</p> <p>24 from asbestos fibers that reach the lungs.' Did I read</p>	<p style="text-align: center;">Page 93</p> <p>1 part that begins with 'Hoffman'?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. 'Hoffman appears to be the first American</p> <p>4 to call magnitude of the asbestosis problem. In 1918 he</p> <p>5 reported 13 deaths from asbestosis had occurred among</p> <p>6 asbestos textile workers and about the same time</p> <p>7 Pancoast, Miller and Landy reported on 17 cases of</p> <p>8 asbestosis', right?</p> <p>9 A. That's what it says here, yes.</p> <p>10 Q. So death had been reported as early as 1918,</p> <p>11 right?</p> <p>12 A. That's correct.</p> <p>13 Q. From asbestosis?</p> <p>14 A. I don't have that report in front of me and so I</p> <p>15 don't know the specifics of it. It's possible that</p> <p>16 there may have been other complications involved there.</p> <p>17 As I mentioned earlier, it was very common for people</p> <p>18 who had asbestosis, or had silicosis who also have</p> <p>19 tuberculosis. In fact, one of the things that prompts</p> <p>20 Merewether to conduct his study is that he will see a</p> <p>21 case from Scotland from a gentleman by the name of</p> <p>22 Seiler -- S-e-i-l-e-r -- that comes after the Cooke</p> <p>23 reports where the person has just got asbestosis and has</p> <p>24 no TB.</p>

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<p>1 Q. Doctor, can we rely upon what Mr. Dreessen says, 2 that Hoffman in 1918 was the first American to call 3 attention to the magnitude of the asbestos problem? Can 4 we rely on that statement?</p> <p>5 A. I think certainly it says what it says but we 6 might want to look at Hoffman to see if there were any 7 extenuating circumstances.</p> <p>8 Q. And in the next sentence Dreessen talks about 9 death, right?</p> <p>10 A. He talks about, he cites Pancoast, Miller and 11 Landy as reporting 17 cases of asbestosis.</p> <p>12 Q. Now, if we go forward in time from here, then we 13 have the Dreessen report itself, 1938, right?</p> <p>14 A. That's correct.</p> <p>15 Q. Okay. And Dreessen concludes about the need for 16 protection to keep the exposures below that five million 17 particle per cubic foot standard, right?</p> <p>18 A. Well, Dreessen is asked to do this study by the 19 State of North Carolina and the reason for that is North 20 Carolina is the state where this industry is beginning 21 to emerge, the textile industry utilizing asbestos. He 22 concludes the study and at the end will recommend if you 23 keep conditions below five million particles per cubic 24 foot you can avoid cases of asbestosis developing. But,</p>	<p>1 A. That's what he stated here, yes.</p> <p>2 Q. And if we go forward in time -- oh, I have 3 something else I wanted to ask you about this document 4 while I'm here. I think you said something about there 5 was limitations on ability to analyze tissue under 6 microscopes back during this time period.</p> <p>7 A. I didn't say anything about that.</p> <p>8 Q. So what you're saying is I guess here it could 9 have been done. They could have looked at more tissue 10 types and so on back then?</p> <p>11 A. They -- well, there is some illustrations here of 12 lung tissue. I don't know whether they're describing 13 looking at them with microscopes, whether they're using 14 refined staining methods the way they might today. I 15 don't know. I don't think so but I don't know.</p> <p>16 Q. So at least in the Dreessen report, that kind of 17 pathology findings talked about is something that could 18 be done, right?</p> <p>19 A. You will have to show me the section in this that 20 talks about that. If you want me to read it I would be 21 more than happy to.</p> <p>22 Q. My question on this section is about the -- it's 23 on page, I think it's 99. It's got a section on 24 pathology, right?</p>
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<p>1 of course, there is a second part of this report similar 2 to the Merewether one which looks at the engineering 3 that has to take place in order to insure that you keep 4 dust levels down in the manufacturing environment.</p> <p>5 Q. Are you finished? I didn't want to cut you off.</p> <p>6 Doctor, if, so he -- if we go to the end of 7 the Dreessen report, it's page 117, right toward the end 8 there. I don't want to rush you. Just kind of jump 9 ahead because I've got it marked in mine. Did you find 10 that part?</p> <p>11 A. Yes.</p> <p>12 Q. Okay. So he talks about dust concentrations 13 needing to be kept below five million particles per 14 cubic foot, correct?</p> <p>15 A. That's correct.</p> <p>16 Q. He doesn't say just asbestos. He says just 17 general dust concentrations, right?</p> <p>18 A. Well, he's saying that --</p> <p>19 Q. Doctor, he says dust concentrations, not asbestos 20 dust, right?</p> <p>21 A. He, he's saying that but he, in the factory that 22 is weaving pure asbestos that is what the dust is.</p> <p>23 Q. Okay. So it's a five million particle per cubic 24 foot dust concentration talked about.</p>	<p>1 A. There is something, a section on Microscopic 2 Appearance.</p> <p>3 Q. Actually it's 96. And in that time period he's 4 talking about -- if you go a paragraph or two into there 5 -- about asbestos bodies, right?</p> <p>6 A. Do you want me to read it, this section halfway 7 down the page (indicating)?</p> <p>8 Q. Yeah, I'll read it. I just want to make sure you 9 found the section.</p> <p>10 A. Well, the section that you have marked is the one 11 you want me to read from?</p> <p>12 Q. Yeah, it talks about asbestos bodies being found 13 in almost all parts of the pulmonary tissue.</p> <p>14 A. That's what it says. It says, 'Asbestosis bodies 15 are found in almost all parts of the pulmonary tissue. 16 They occur most frequently in the areas of fibrosis and 17 are accompanied by a greenish black pigment.' And it 18 continues on and it says, 'They are also noted in the 19 connective tissue about the small bronchi, in the 20 alveolar walls and in the alveoli.' Sorry.</p> <p>21 Q. Alveoli, right?</p> <p>22 A. That's what it says. I think the pigmentation 23 you're talking about here is not the same as what 24 Dr. Hammar was referring to, if that's what you're</p>

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1 asking me about.

2 Q. Okay. And it talks about another brownish-
3 yellow pigment and so on, right?

4 A. Yes, that's correct, but these -- they are not
5 being used to stain slides. They are appearing in the
6 body.

7 Q. All right. Certainly, though, Dreessen is
8 reporting that you can't find these asbestosis bodies
9 back then, right?

10 A. So was Cooke back in 1927.

11 Q. We can put that down. I think we're done with
12 Dreessen.

13 You talked about the National Safety
14 Council, right?

15 A. I believe I mentioned the National Safety
16 Council. This is an organization that was started
17 around the turn of the century to promote safety in the
18 work place, in the home, and throughout, you know, our
19 environment.

20 Q. Owens-Illinois, through Mr. Hazard, would have
21 been aware of the National Safety Council materials?

22 A. They were the founding member of the glass
23 section of the National Safety Council.

24 Q. "They" meaning Owens-Illinois?

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1 A. Owens-Illinois and Hazard, chair.

2 THE COURT: And who?

3 THE WITNESS: Mr. Willis Gilpin Hazard,
4 the industrial hygienist from Owens-Illinois, was chair
5 of that glass committee. He was the head of that
6 committee. They are the major bottle producer in the
7 country at that time and so they were interested,
8 obviously we know from Hazard's career, in safety and
9 they started that part of the National Safety Council.

10 Q. (By Mr. McCoy) All right. National Safety
11 Council issued regular publications, right?

12 A. They did. They had a magazine called Safety News
13 and they also had proceedings and, from their annual
14 meetings where people from each of the different
15 sections of the council would give presentations; for
16 example, there is a petroleum section of the Safety
17 Council where people like Roy Bonsib, who we were
18 talking about earlier, would talk about safety at
19 refineries.

20 Q. Okay. Our next number is 68. Okay. This one is
21 Plaintiff's Exhibit 68. This is one from the National
22 Safety Council, right?

23 MR. FISCHER: Bob, could I have a copy?

24 Q. (By Mr. McCoy) That's the National Safety

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1 Council publication, right, Doctor?

2 A. Yes, it is.

3 Q. Okay. And what's, what's that one titled?

4 MR. FISCHER: Judge, I object until I
5 have a copy.

6 Thank you.

7 THE COURT: You may proceed.

8 Q. (By Mr. McCoy) What's that one titled, Doctor?

9 A. This is titled Dusts, Fumes and Mists in
10 Industry, and I don't see the date of it.

11 Q. It looks like down at the bottom it's got a 1943.
12 Do you see that down there?

13 A. I'm unsure whether it's a 43 or a 63. But there
14 is a date -- it's just not discernable -- at the
15 bottom.

16 Q. Okay. I will represent that that's a 1943.

17 MR. FISCHER: Could I approach, please?

18 THE COURT: You may.

19

20 (Whereupon a discussion was had by the
21 Court and counsel out of the hearing of
22 the Jury and the reporter, after which
23 the following proceedings were had in
24 open court.)

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1 THE WITNESS: Do you want me to comment
2 on that?

3 MR. MCCOY: No, I'll withdraw that.

4 THE WITNESS: I would be happy do that.

5 MR. MCCOY: I think I made a mistake on
6 the date.

7 THE WITNESS: I think you did.

8 MR. MCCOY: Right. I apologize.

9 THE COURT: Mr. McCoy, I want you to go
10 ahead and take a minute and collect your thoughts.

11 Let's don't take a full-fledged break, but
12 if you all would like to stand up and just refresh
13 yourself for just a minute or so.

14 MR. MCCOY: Could we approach?

15 THE COURT: Certainly.

16

17 (Whereupon a discussion was had by
18 the Court and counsel out of the
19 hearing of the Jury and the
20 reporter, after which the
21 following proceedings were had in
22 open court.)

23

24 THE COURT: Okay. I tell you what.

<p style="text-align: right;">Page 102</p> <p>1 Let's go ahead and take a full-fledged break. We'll 2 take about a ten minute break and we'll resume in about 3 ten minutes or so. 4</p> <p>5 (Whereupon the Jury was excused, 6 after which the following 7 proceedings were had in open 8 court.) 9</p> <p>10 THE COURT: Mr. McCoy? 11 MR. MCCOY: Yes. I wanted to say, 12 Judge, that this witness, if he's allowed to continue to 13 go on and on and on, if he's allowed to go on and on and 14 on with every answer like he's been doing I cannot 15 conduct an effective cross examination of this witness 16 and I'd ask for, you know, Your Honor to advise that he 17 should answer my questions and I would make that request 18 again so we can have an effective cross examination and 19 get done with this. 20 THE COURT: Okay. And I told you during 21 an earlier side bar, if he gives you an answer which is 22 not responsive, ask me to strike it. If I agree that it 23 is not responsive, I will strike it and I will then 24 instruct the witness to answer the question.</p>	<p style="text-align: right;">Page 104</p> <p>1 Q. Okay. And this is one from August 1949, right? 2 A. It appears that it is. I can't discern the date 3 at the upper right-hand corner of the second page but it 4 may be 1949. 5 Q. Okay. The first page says August 1949, right? 6 A. It does. 7 Q. All right. This -- and down below there it's got 8 a, the third one down there. You see that abstract? 9 A. Number 867? 10 Q. Right. See it? 11 A. Yes. 12 Q. Okay. And that's titled Asbestosis and Cancer of 13 the Lung, right? 14 A. That's correct. 15 Q. And that's dated August 13, 1949, that abstract, 16 right? 17 A. That's correct. 18 Q. And this abstract, it says in here, 'Reports of 19 English, American, and German physicians in the annual 20 report of the Chief Inspector of factories in England 21 for 1947 show that the occurrence of cancer of the lung 22 is related to pulmonary asbestosis', right? 23 A. That's correct. 24 Q. And it says, 'This relation is supported by the</p>
<p style="text-align: right;">Page 103</p> <p>1 MR. MCCOY: Okay. 2 THE COURT: There have been some 3 occasions which, had that been asked, I would have done 4 that. 5 MR. MCCOY: All right. 6 7 (Witness excused from the witness 8 stand.) 9 10 (Whereupon a short recess was 11 taken, the witness resumes the 12 witness stand and the Jury returns 13 to the courtroom, after which the 14 following proceedings were had in 15 open court.) 16 17 THE COURT: Okay. I think we're ready 18 to resume. 19 Mr. McCoy? 20 MR. MCCOY: Thank you, Judge. This time 21 I'll get the dates right. I apologize. 22 Q. (By Mr. McCoy) Exhibit Number 44. Doctor, is 23 this an abstract from the Industrial Hygiene Digest? 24 A. It appears that it is, yes.</p>	<p style="text-align: right;">Page 105</p> <p>1 following observations: One' -- the incidence of -- 2 'the incidence rate of cancer of the lungs in asbestosis 3 patients is ten to 15 times as high as among the general 4 population', right? 5 A. That's correct. 6 Q. Okay. 'The male/female ratio is more nearly 7 equal than it is for the general population, which 8 indicates that the environmental and evidently 9 occupational carcinogen' -- I can't read that next one. 10 Do you know what that one says? 11 A. -- 'tended to equalize the incidence rate of 12 cancer of the lungs for both sexes. Recent experimental 13 observations support this interpretation of clinical 14 evidence.' 15 Q. Okay. And this 1949 asbestosis and cancer 16 published in the journal of the American Medical 17 Association Abstract, right? 18 A. It's an editorial -- this is an abstract. It's 19 an abstract of an editorial. We don't have the whole 20 editorial here. This is an abstract from it that the 21 Industrial Hygiene Foundation -- there's a number of 22 papers there. By abstract it means someone goes in and 23 grabs the gist of the paper and puts it down or, in this 24 case, editorial, and puts it down in a paragraph and</p>

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<p>1 this is collected and put out in this Industrial Hygiene 2 Digest which is produced and distributed to its 3 membership by the Industrial Hygiene Foundation. 4 Q. Okay. The abstract is the gist of the article, 5 right? Is that what you said? 6 A. That's correct. 7 Q. Okay. And this is an article or in a publication 8 that Owens-Illinois did receive because they were a 9 member of it, right? 10 A. Owens-Illinois was a member. Texaco was a 11 member. Virtually -- many of the leading corporations 12 in the United States were members of the Industrial 13 Hygiene Foundation.</p> <p>14 MR. McCOY: Your Honor, I would move to 15 strike the part after the Owens-Illinois answer.</p> <p>16 THE COURT: Okay. That will be 17 stricken. The jury will be advised to disregard 18 anything after the question was answered that 19 Owens-Illinois was a member.</p> <p>20 MR. McCOY: And the basis for that was 21 it was not responsive.</p> <p>22 THE COURT: It was non-responsive.</p> <p>23 Q. Mr. Hazard, Dr. Neushul, certainly would have 24 been following this Industrial Hygiene Digest abstract,</p>	<p>1 following proceedings were had in 2 open court.) 3 4 Q. (By Mr. McCoy) Dr. Neushul, Exhibit Number 69, 5 this is from the AMA Archives of Industrial Hygiene and 6 Occupational Medicine, right? 7 A. That's what it says, yes. 8 Q. Okay. And this is a publication of the American 9 Medical Association? 10 A. I believe so, yes. 11 Q. Okay. So again, this is the publication, type of 12 publications of which Owens-Illinois, through its, like, 13 Mr. Hazard and Dr. Shook, would be aware of, right? 14 A. They may well have been aware of this, yes. 15 Q. I mean, this is a peer-reviewed authoritative- 16 type of publication, right? 17 A. What you've given me here is an abstract of a 18 discussion. I don't see a paper so I don't know whether 19 it's peer reviewed or not. 20 Q. Well, the journal is a respected journal, the AMA 21 Archives of Industrial Hygiene and Occupational 22 Medicine, right? 23 A. That's certainly a respected journal. 24 Q. Okay. So they printed here, as you said, an</p>
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<p>1 right? 2 A. I would imagine that the physicians and the 3 hygienists at all corporations would follow this, 4 including Mr. Hazard. 5 Q. All right. So he would have seen that in 1949, 6 right? 7 A. He may have seen that. 8 Q. Next, Plaintiff's Exhibit Number 68. And first 9 question --</p> <p>10 THE REPORTER: Is that 68 or 69? 11 MR. FISCHER: Your Honor, may I 12 approach? 13 THE COURT: You previously referred to a 14 document as 68, although you didn't have any questions 15 about it. 16 MR. McCOY: Okay. That should be 69. I 17 apologize. 18 THE COURT: Okay. And now, counsel, you 19 may approach.</p> <p>20 21 (Whereupon a discussion was had by 22 the Court and counsel out of the 23 hearing of the Jury and the 24 reporter, after which the</p>	<p>1 abstract of a discussion, right? 2 A. This is from, presumably from a meeting. I don't 3 know that it has to do with a paper -- 4 Q. Okay. 5 A. -- at all. 6 Q. I understand. But, and it says 'discussion' 7 right in the article, right? 8 A. It's not an article. What happens on occasion in 9 these journals is you will have a series of articles; 10 then there will have been an annual meeting and 11 sometimes parts of that annual meeting will be published 12 at the back of the journal. There must have been a 13 meeting. This committee met and they published it; 14 they've transcribed some of the discussion. I don't 15 think there's a paper involved here. 16 Q. So the transcribed discussion was published in 17 this journal, right? 18 A. It appears so. 19 Q. Okay. 20 A. I mean, it takes a big jump here. You go from 21 page 185 to 262 so I don't know if the first page has 22 anything to do with the next two. 23 Q. Right. 24 A. And I'm a little worried about dates and page</p>

<p style="text-align: center;">Page 110</p> <p>1 numbers when looking at this so I don't know if there's 2 a connection between the two of them frankly. 3 Q. So somebody looking at page 262 would have seen, 4 or could have seen if they looked at it, this table 5 which talks about Cases of Carcinoma of the Lungs 6 Detected Among 4,000 Asbestos Workers 1940 to 1950, 7 right? 8 A. That is a table that's here. 9 Q. Okay. And in there, there is, it looks like one, 10 two, three, four, five, six, seven, eight case reports, 11 right? 12 A. Eight case reports. 13 Q. Okay. And they're all cancer reports, right? 14 A. One is for lymphosarcoma; there's two, what 15 they're calling bronchogenic carcinoma. 16 Q. It's cancer, right? 17 A. They are cancer reports, yes. 18 Q. Okay. So, and there's two in here that they call 19 pleural mesotheliomas, right? 20 A. There are two that they are calling pleural 21 mesotheliomas but there is an asterisk -- 22 Q. Doctor -- 23 A. -- next to that and it says, quote, that's next 24 to the name and then there's an asterisk below it. It</p>	<p style="text-align: center;">Page 112</p> <p>1 with regards to the footnote I think was, in fact, 2 responsive but the part after the end of what the 3 footnote said and began comparing it or referring it to 4 another report is not responsive, so that part will be 5 stricken and the jury will be instructed to disregard 6 that last part. 7 Please answer the questions as asked, sir. 8 Q. (By Mr. McCoy) Doctor, by 1952 then, there are 9 cases that are being called in the literature pleural 10 mesothelioma. That's the title, type of tumor that is 11 being listed, right? 12 A. They are being called pleural mesothelioma with 13 an asterisk next to it saying that it could be something 14 else. 15 Q. Let's go to the next article. I want to show you 16 Exhibit 70. 17 A. Thank you. 18 Q. Exhibit 70, Doctor, this is titled Case Reports, 19 Asbestosis and Bronchogenic Carcinoma, right? 20 A. That's correct. 21 Q. Okay. And this is an article. The first author 22 of it is Isselbacher, right? 23 A. That's correct. 24 Q. And in this article, again there's a report about</p>
<p style="text-align: center;">Page 111</p> <p>1 says, 'Standard Nomenclature of Diseases and Operations 2 published by the AMA suggests the term mesothelial 3 sarcoma.' It's hard to read that. So there's an 4 asterisk next to that description. Evidently they're 5 not sure and this, again, conforms with the pre-Wagner 6 disagreement over whether this existed or not and what 7 to name it. 8 MR. McCOY: Your Honor, I'll move to 9 strike the last part of that answer. The witness said, 10 "evidently not sure." Specifically, it's 11 non-responsive. Lack of foundation on it. 12 MR. FISCHER: May I be heard on that? 13 THE COURT: You may approach. Counsel 14 may approach.</p> <p>16 (Whereupon a discussion was had by 17 the Court and counsel out of the 18 hearing of the Jury and the 19 reporter, after which the 20 following proceedings were had in 21 open court.)</p> <p>23 THE COURT: I will grant the request as 24 to any language concerning a Wagner report. The answer</p>	<p style="text-align: center;">Page 113</p> <p>1 asbestosis and lung carcinoma, right? 2 A. Yes, that's correct. 3 Q. Okay. And this was in a person that was doing 4 pipe covering work, right? 5 A. From what it says here it was a 41-year-old 6 asbestos mill worker. 7 Q. And in Table 4 they list a number of, a summary 8 of some of the past articles that have been published, 9 right? It's on page 730. 10 A. What did you want to ask about Table 4? 11 Q. That's a list of some past case reports that have 12 been published by other authors, right? 13 A. That's correct. 14 Q. And in that list they've got a number of cases in 15 different occupations, right? 16 A. The occupations are described, yes. 17 Q. And these are people that had developed cancer, 18 right? 19 A. It appears, yes -- 20 Q. Okay. 21 A. -- that they have. 22 Q. So the occupation, there's reports of a pipe 23 insulator, 1941, right? 24 A. Yes. It appears it's not -- it doesn't appear to</p>

<p style="text-align: right;">Page 114</p> <p>1 be lung cancer but he appears to have cancer. It's hard 2 for me to discern from this but it says 'adrenal 3 kidney'.</p> <p>4 Q. It concludes -- it's got a number of occupations 5 and a number of cancers reported, right?</p> <p>6 A. There are, yes. These are case studies.</p> <p>7 Q. Okay. And it states in there in the Summaries 8 and Conclusions -- see that section down there, number 9 four?</p> <p>10 A. That's right, number four.</p> <p>11 Q. It says, 'Asbestos is associated with 12 bronchogenic carcinoma in 13.8 percent of the cases 13 cited in the literature. In silicosis, the incidence is 14 considerably less than this. The asbestos particle may 15 serve as a carcinogen because of the chronic mechanical 16 irritation it produces.'</p> <p>17 A. That's correct.</p> <p>18 Q. And it goes on to state, 'Since there are 19 approximately 10,000 workers engaged in potentially 20 hazardous asbestos operations in this country, it is 21 reasonable to assume that there are many unrecognized 22 cases of asbestosis. From the evidence presented a 23 higher incidence of bronchogenic carcinoma should be 24 expected in this group.'</p>	<p style="text-align: right;">Page 116</p> <p>1 who had been working in an asbestos environment, right? 2 A. That's correct. Sir Richard Doll is the 3 preeminent epidemiologist of the 20th century. He will 4 be the first in England to determine the connection 5 between lung cancer and smoking in a, by studying a 6 group of doctors who smoked. And then he will do this; 7 this is an epidemiological study. He's seen case 8 reports that show people with asbestos, as in -- 9 asbestosis, as in the case of this Isselbacher and Hardy 10 paper that we talked about, are beginning to contract 11 lung cancer. There's a chance if you have asbestosis 12 you may get lung cancer and so he does an 13 epidemiological study of people with asbestosis.</p> <p>14 MR. McCOY: Your Honor, I need -- as far 15 as this witness is concerned, I would like to make a 16 motion to strike parts of his answer. I asked him one 17 question and he went on for quite a bit. I don't know 18 which, you know, some of the answer I needed to get out 19 but I wanted to get this thing done quickly. So, I 20 mean, I'll make my motion to strike it as 21 non-responsive.</p> <p>22 THE COURT: I believe he actually 23 answered your question at the very beginning . I think 24 he said yes. The rest of it was either non-responsive</p>
<p style="text-align: right;">Page 115</p> <p>1 A. That's what's stated there, yes.</p> <p>2 Q. Okay. And again, this is a case report that 3 would be available in the literature for Mr. Hazard, 4 Dr. Shook, or anybody else at Owens-Illinois. Is that 5 right?</p> <p>6 A. They may have looked at the literature that this 7 was published in. I don't see the source here. I 8 recognize the paper. I've seen it before but -- oh, 9 American Journal of Medicine.</p> <p>10 Q. Right.</p> <p>11 A. Dr. Shook may well have looked at that.</p> <p>12 Q. Mr. Hazard maybe, too, right?</p> <p>13 A. It's possible.</p> <p>14 Q. So we get this on our chart here.</p> <p>15 And we go from there to, 1953 to 1955. In 16 the year 1955 that's when the Doll publication came out.</p> <p>17 A. That's correct.</p> <p>18 Q. This is a copy --</p> <p>19 A. Thank you.</p> <p>20 Q. -- which is now exhibit 71. So this one is 21 titled Mortality From Lung Cancer in Asbestos Workers by 22 Richard Doll.</p> <p>23 A. That's correct.</p> <p>24 Q. Okay. And he looked at, what, about 105 persons</p>	<p style="text-align: right;">Page 117</p> <p>1 or additional information not required in your question, 2 so I will strike that. I will strike everything after 3 the witness indicated yes and the jury will be 4 instructed to disregard the answer.</p> <p>5 Dr. Neushul, please just answer the 6 questions as asked.</p> <p>7 Q. (By Mr. McCoy) Dr. Neushul, Sir Richard Doll 8 looked at 105 persons exposed and employed in one 9 asbestos works, right?</p> <p>10 A. That's correct.</p> <p>11 Q. Okay. And he found the lung cancer in 18 of 12 those people, right?</p> <p>13 A. You'll have to show me. I don't want to agree to 14 that. If you want to show me what page you're talking 15 about.</p> <p>16 Q. I'll flip you to that. Page 86 in the summary.</p> <p>17 A. Eighteen instances, 15 times in association with 18 asbestosis.</p> <p>19 Q. And then he goes on and he states, 'From the data 20 it can be concluded that lung cancer was a specific 21 industrial hazard of certain asbestos workers and that 22 the average risk among men employed for 20 or more years 23 has been of the order of ten times that experienced by 24 the general population', right?</p>

<p style="text-align: center;">Page 118</p> <p>1 A. That's correct, but I really feel you have to 2 note under summary where you're reading from that all 3 the subjects in whom both conditions were found had 4 started employment in the industry before 1923 and had 5 worked in the industry at least nine years before the 6 regulations for the control of dust had become 7 effective.</p> <p>8 MR. McCOY: Your Honor, again I move to 9 strike the last part as non-responsive.</p> <p>10 THE COURT: And I will strike that. It 11 was non-responsive. If the witness wishes to explain 12 his answer and if the defendant's attorney wishes to 13 give him a chance to do so that can happen.</p> <p>14 Q. (By Mr. McCoy) So that's, would that be fair to 15 say, like an epidemiological connection I think was the 16 dimension you said.</p> <p>17 A. Sir Richard Doll is an epidemiologist, the 18 leading epidemiologist of the 20th century, and he is 19 drawing a connection between people with asbestosis and 20 lung cancer.</p> <p>21 Q. And it takes a long time to conduct an 22 epidemiological study, right? You have to look at 23 people over a number of years for asbestosis, right?</p> <p>24 A. In this particular instance, I believe he</p>	<p style="text-align: center;">Page 120</p> <p>1 hearing of the Jury and the 2 reporter, after which the 3 following proceedings were had in 4 open court.)</p> <p>5</p> <p>6 Q. (By Mr. McCoy) Doctor, Exhibit Number 72, this 7 is one you've got: Special Hazard Survey Prepared For 8 Owens-Illinois, Kaylo Division, Berlin, New Jersey, 9 right?</p> <p>10 A. That's correct.</p> <p>11 Q. Okay. And this was done on April 28th and May 12 2nd of 1958 according to its cover, right?</p> <p>13 A. It appears so, and that is when the company no 14 longer belonged to Owens-Illinois.</p> <p>15 MR. McCOY: Your Honor, let me move to 16 strike that last part as non-responsive again.</p> <p>17 THE COURT: Technically -- okay. I 18 agree. Everything as to, everything after that's right 19 will be stricken and the jury will be instructed to 20 disregard the answer.</p> <p>21 Q. (By Mr. McCoy) The date of sale was April 30th, 22 right?</p> <p>23 A. I would have to look at the terms of the sale to 24 be absolutely certain of when that was. If you have</p>
<p style="text-align: center;">Page 119</p> <p>1 certainly looked at their work history. He notes that 2 they had been employed in the industry for 20 years or 3 more.</p> <p>4 Q. And you're familiar with the latency concept for 5 asbestos disease, right?</p> <p>6 A. That certainly -- yes, I am familiar with that.</p> <p>7 Q. Oftentimes it takes 20 years or even longer 8 before a person will develop asbestos disease, right?</p> <p>9 A. That would depend upon the level of exposure, how 10 much you're exposed to, but certainly it could take 20 11 years or longer.</p> <p>12 Q. And that's why these epidemiological studies have 13 to cover people over long periods of time, right?</p> <p>14 A. They can certainly be effective if they look at 15 people over long periods of time.</p> <p>16 Q. Okay. Now I want to go to this last document 17 here, 72. Exhibit 72, Doctor --</p> <p>18 MR. FISCHER: Object to this one, Your 19 Honor.</p> <p>20 THE COURT: Okay. Counsel, please 21 approach.</p> <p>22</p> <p>23 (Whereupon a discussion was had by 24 the Court and counsel out of the</p>	<p style="text-align: center;">Page 121</p> <p>1 those, I would be happy to read it off of it.</p> <p>2 Q. Well, you, you just said something about this 3 document.</p> <p>4 A. I believe that this is after that, after the 5 company was sold.</p> <p>6 Q. But you don't really know when the sale happened 7 but you're saying it's afterwards, right?</p> <p>8 A. Well, I can certainly defer to the deposition of 9 Mr. Hazard, who clearly was not in charge of industrial 10 hygiene based on who's listed here at the beginning of 11 this document at the time that this was prepared.</p> <p>12 Q. So you don't really know whether this was before 13 or after the sale, right?</p> <p>14 A. My impression is that it was after.</p> <p>15 Q. Okay. But it is April 28th and May 2nd according 16 to the documents, right?</p> <p>17 A. It is those two days in 1958.</p> <p>18 Q. All right. And what this looks at it, it says 19 the purpose of it, right?</p> <p>20 A. The purpose of this visit?</p> <p>21 Q. Yeah. It says, 'The purpose of the visit was to 22 determine employee exposure to dust in production 23 operations', right?</p> <p>24 A. That's correct.</p>

<p style="text-align: right;">Page 122</p> <p>1 Q. So was this to determine exposures at the Berlin 2 plant where the Kaylo was being made, right? 3 A. It says Berlin, New Jersey, at the top, yes. 4 Q. And it gives a number of activities that are 5 involved, right? 6 A. There are a number of air samples taken at 7 various locations. 8 Q. Okay. And, for example, if we look at air sample 9 number three, that's a horizontal splitting saw, right? 10 A. That's correct. 11 Q. Okay. And that shows exposures at 91.8 million 12 particles per cubic foot of air, right? 13 A. That's what they're saying there, yes. 14 Q. And there's a number of other exposures listed 15 such as for flatware finishing, right? 16 A. That's correct. 17 Q. Forty-four point three million particles per 18 cubic foot of air, right? 19 A. That's correct. 20 Q. And again, Doctor, I think you said it but 21 exposures can be high and they can be low, right? 22 A. They can, and they can be total dust counts and 23 they can be asbestos dust counts. 24 Q. Okay. All right. There is a whole range of</p>	<p style="text-align: right;">Page 124</p> <p>1 A. That's correct. 2 Q. And then it goes on and says, 'B, A clean, dust- 3 free cabinet should be provided for storage of 4 respirators at some convenient place when not in use', 5 right? 6 A. That's correct. 7 Q. And then it goes on to say, 'C, Someone should be 8 assigned to handle this cleaning on a daily basis, 9 possibly the plant nurse', right? 10 A. That's correct. 11 Q. And, 'D, A respirator should be worn in all dust- 12 producing areas which include take off at the splitter, 13 charging a flatware line, unloading boxcars, molded 14 stripings between rubbers on flatware line, and 15 packaging of flatware', right? 16 A. That's correct. 17 Q. Okay. And then it continues on and it says, '2, 18 A study should be made in regard to possibility of 19 installing exhaust systems in order to remove the excess 20 dust from the operator's breathing zone where the 21 flatware is removed from the splitter, where flatware is 22 charged on the finishing line, and the number one and 23 two stripping operations', right? 24 A. That's correct.</p>
<p style="text-align: right;">Page 123</p> <p>1 these kinds of exposures depending on the activity, how 2 far away from the breathing zone' a lot of different 3 factors, right? 4 A. Yes. There could also be ventilation measures 5 employed at the site or someone could be wearing a 6 respirator. 7 Q. So these particular -- and, in fact, I think that 8 was a recommendation made here, was to wear a 9 respirator, right? 10 A. Show me which section where you see that. 11 Q. If you go to the last page, you see it? 12 A. Is this under Recommendations? 13 Q. Yes. 14 A. Which one would you like me to read? 15 Q. I think the whole thing might have some bearing 16 on this. Number one, I'll read it as an example. It 17 starts out and it says, 'A review should be made of the 18 present respirator program in order to bring it up 19 Owens-Illinois' standards and should include the 20 following', and then it says, 'A, Two respirators should 21 be provided for each employee exposed to dust so that 22 one respirator can be cleaned, checked and sterilized 23 while the other is being used.' 24 Did I read that one right?</p>	<p style="text-align: right;">Page 125</p> <p>1 Q. These are all Kaylo production activities, right? 2 A. Presumably they are a component of the production 3 line. 4 Q. And then it goes on and it says, 'The section of 5 exhaust should be connected up at the end of the belt on 6 the number one rubber', right? 7 A. It says that, yes. 8 Q. And then finally, number four, 'Recommendation 9 which suggests that consideration be given for providing 10 a vacuum cleaning system to eliminate hand broom 11 sweeping and blowing down of overhead', right? 12 A. Yes. 13 Q. Okay. All right. So those recommendations were 14 provided in this report which came from AETNA, right? 15 A. This report was generated by AETNA. 16 Q. Okay. All right. So this was in 1958, April/May 17 Plant Report, and we had exposures in there as high as 18 91 million particles per cubic foot. 19 A. Total dust count. 20 Q. Okay. And Kaylo is up to 20 percent asbestos, 21 right? 22 A. It could be, yes. 23 Q. Could it be higher? 24 A. In the discussion today I haven't seen a number</p>

<p style="text-align: right;">Page 126</p> <p>1 above 20 percent.</p> <p>2 Q. Have you heard about numbers above 20 percent 3 before, Doctor?</p> <p>4 A. To the best of my recollection, it's 20 percent.</p> <p>5 Q. Okay. Twenty percent of the 91 million would be, 6 that's 18 million, right?</p> <p>7 A. That's correct in that instance.</p> <p>8 Q. So even if we go by what you're saying, which is 9 an asbestos TLV of five million particles per cubic 10 foot, now we're three times above that, right?</p> <p>11 MR. FISCHER: Objection, Your Honor.</p> <p>12 THE COURT: Counsel, please approach.</p> <p>13</p> <p>14 (Whereupon a discussion was had by 15 the Court and counsel out of the 16 hearing of the Jury and the 17 reporter, after which the 18 following proceedings were had in 19 open court.)</p> <p>20</p> <p>21 THE COURT: The objection has been 22 overruled.</p> <p>23 Sir, do you remember the question?</p> <p>24 THE WITNESS: No.</p>	<p style="text-align: right;">Page 128</p> <p>1 A. I honestly don't know. It could have varied.</p> <p>2 Q. Okay. Well, have you seen the packaging on the 3 Kaylo in the pictures and so on?</p> <p>4 A. I've seen some pictures, yes.</p> <p>5 Q. Okay. And those boxes, you say they're about 6 three foot high, right?</p> <p>7 A. It's hard for me to tell from looking at one of 8 those pictures how high they are.</p> <p>9 Q. It's big enough to put some lettering on it, 10 right?</p> <p>11 A. There was labelling on the box, yes.</p> <p>12 Q. Okay. There's room to put a warning on the box, 13 right?</p> <p>14 A. As I explained earlier, warnings were not a part 15 of business at that time and they will not be until the 16 mid-1960s.</p> <p>17 Q. You said they are "not a part of business"?</p> <p>18 A. That's what I said.</p> <p>19 Q. Okay. But I -- what do you mean, "not a part of 20 business"?</p> <p>21 A. What I mean is that if you were to look at 22 products from that period, from the 1950s, if you were 23 to transport yourself back to that time and look at 24 boxes in a store, they do not have what we see today,</p>
<p style="text-align: right;">Page 127</p> <p>1 THE COURT: Okay. Could we have it read 2 back, please?</p> <p>3</p> <p>4 (The question found on page 126 at 5 lines 8 through 10 was read back 6 by the reporter.)</p> <p>7</p> <p>8 THE WITNESS: That certainly may be 9 correct but there were portions of this plant where 10 workers were wearing respirators and this may have been 11 an area where respirators were employed as part of the 12 dust control measures.</p> <p>13 Q. (By Mr. McCoy) The TLV -- one other thing, 14 Doctor. Doctor, this -- the Kaylo, you're familiar with 15 the fact that that came in a box, right?</p> <p>16 A. I believe Kaylo was delivered in a box.</p> <p>17 Q. About three foot high and so wide?</p> <p>18 A. It would probably depend on what was in there, 19 whether it was pipe covering or block.</p> <p>20 Q. Okay. Well, why don't you just -- what are the 21 basic dimensions?</p> <p>22 A. It may have been bigger than that. It depends on 23 what, what size product was in the box.</p> <p>24 Q. A couple feet wide or wider?</p>	<p style="text-align: right;">Page 129</p> <p>1 extensive warnings. If I go to a hardware store today 2 and I buy a claw hammer there's going to be a label 3 attached to it saying whenever you hit anything with 4 this claw hammer you need to have a pair of safety 5 goggles on. That's today. Shift yourself back to the 6 1950s. Those labels were not attached to claw hammers.</p> <p>7 Q. So are you saying that it was okay to not have a 8 warning back in the 1950s because that's what everybody 9 else was doing who's in the business?</p> <p>10 A. What I'm saying is that a lot has taken place in 11 the ensuing ten, 15, 20 years, including Consumer 12 Product Safety Commission, a whole series of government 13 agencies that have made labelling required.</p> <p>14 Q. We're talking about, though, the 1950s. I 15 thought that's where we're at, right, not later events.</p> <p>16 A. We are in the 1950s.</p> <p>17 Q. Thank you.</p> <p>18 A. But if you expect to see labelling in the 1950s, 19 you have to take everything that we know now in the 20 1960s and '70s and then pose it on a different time when 21 there was different thinking at that time.</p> <p>22 Q. Doctor, there was, Owens-Illinois could have 23 written warnings on the boxes about certain things, 24 right, Kaylo boxes?</p>

<p style="text-align: right;">Page 130</p> <p>1 MR. FISCHER: Objection. Vague and 2 argumentative.</p> <p>3 THE COURT: Overruled. You may answer.</p> <p>4 THE WITNESS: I don't understand. What 5 is it that they're supposed to warn of?</p> <p>6 Q. (By Mr. McCoy) Okay. So you're saying -- well, 7 Doctor, the fibers penetrating to lung tissue, that 8 could have been warned about, these curious bodies, as 9 early as 1927, right?</p> <p>10 A. So you're saying that they should have printed 11 'curious bodies' on the outside of a box in the 1950s?</p> <p>12 Q. What I'm asking you, Doctor, is, is it your 13 opinion that there was no, that Owens-Illinois did not 14 have to do that because that was not part of business?</p> <p>15 MR. FISCHER: Objection, Your Honor.</p> <p>16 Could we approach?</p> <p>17 THE COURT: You may.</p> <p>18</p> <p>19 (Whereupon a discussion was had by 20 the Court and counsel out of the 21 hearing of the Jury and the 22 reporter, after which the 23 following proceedings were had in 24 open court.)</p>	<p style="text-align: right;">Page 132</p> <p>1 (The question found on page 131 at 2 lines 5 through 10 was read back 3 by the reporter.)</p> <p>4</p> <p>5 THE WITNESS: Again, that was not part, 6 that practice was not part of business at that time.</p> <p>7 MR. McCLOY: Your Honor, I object.</p> <p>8 THE WITNESS: You are not going to see 9 that on any kind of a product during, or any lettering 10 like that on any product at that time.</p> <p>11 MR. McCLOY: Your Honor, same objection.</p> <p>12 THE COURT: Okay. And the objection 13 will be sustained again.</p> <p>14 The question is, sir, if that could have 15 been done; not whether you would have recommended or 16 whether you think they should have.</p> <p>17 So I will have the court reporter read back 18 the question one more time.</p> <p>19 Please answer the question.</p> <p>20</p> <p>21 (The question found on page 131 at 22 lines 5 through 10 was read back 23 by the reporter.)</p> <p>24</p>
<p style="text-align: right;">Page 131</p> <p>1 MR. McCLOY: Okay. I'll withdraw that.</p> <p>2 THE COURT: And, for the record, there 3 was an objection to the last question and it was 4 sustained.</p> <p>5 Q. (By Mr. McCoy) These items right here that I've 6 listed -- fibers penetrating to lung tissues, dangerous 7 exposure level, death, protective measures like 8 respirators or exhaust systems -- Owens-Illinois could 9 have printed a label on its Kaylo boxes listing all of 10 those, right?</p> <p>11 A. From what was known of the application of 12 asbestos-containing Kaylo pipe covering, or in general 13 pipe covering, you were never going to be exposed in 14 that occupation to above the threshold limit value and 15 so that was deemed to be a safe occupation so there's 16 really nothing to warn of for someone applying that 17 product.</p> <p>18 MR. McCLOY: Your Honor, I move to strike 19 that as not responsive.</p> <p>20 THE COURT: It will be stricken as 21 non-responsive. The jury is instructed to disregard the 22 answer.</p> <p>23 Would the court reporter please read back 24 the question?</p>	<p style="text-align: right;">Page 133</p> <p>1 THE WITNESS: No, I don't think they 2 could have.</p> <p>3 Q. (By Mr. McCoy) Is that because it wouldn't fit 4 on the package?</p> <p>5 A. No.</p> <p>6 Q. It would fit on the package, right?</p> <p>7 A. I don't think that within the context of that 8 time that that would ever have crossed their mind to do 9 that --</p> <p>10 MR. McCLOY: Your Honor, again --</p> <p>11 A. -- and I don't think for that reason that they 12 could have done that. I think what you're doing is 13 thinking out of the historical context. I'm a 14 historian. I look back at the setting within which 15 these sorts of decisions were made. I see no indication 16 at that time that any company would have behaved in that 17 way, in that manner at that time. If you want to talk 18 about it in the 1960s and the 1970s I can understand 19 that, but otherwise, it's completely out of the 20 historical context. And that's what I do. I put things 21 within historical context.</p> <p>22 MR. McCLOY: Your Honor, once again I 23 move to strike the answer as non-responsive.</p> <p>24 THE COURT: The answer will be stricken</p>

<p>1 as non-responsive.</p> <p>2 MR. FISCHER: To the extent that</p> <p>3 Mr. McCoy is asking if it would fit on the box, I would</p> <p>4 ask that he explain exactly how much he wants on the</p> <p>5 warning. We don't have an exact warning. Mr. McCoy is</p> <p>6 suggesting the answer, whether --</p> <p>7 THE COURT: Well, the question as asked</p> <p>8 so far is if those words there could fit on the box.</p> <p>9 MR. FISCHER: Just these words?</p> <p>10 THE COURT: Just those words there.</p> <p>11 That's the question that has been asked.</p> <p>12 Do you want to try to ask the question one</p> <p>13 more time or shall I ask the court reporter to read it</p> <p>14 back, again?</p> <p>15 MR. McCOY: Just have it read back</p> <p>16 again, Judge.</p> <p>17 THE COURT: Okay. And actually I think</p> <p>18 maybe it would be a different question this time because</p> <p>19 the first answer was no and then the question was why</p> <p>20 not and why was that so.</p> <p>21 Anyway, if you would please, read back the</p> <p>22 last question that was asked.</p> <p>23</p> <p>24</p>	<p>Page 134</p> <p>1 REDIRECT EXAMINATION</p> <p>2 BY MR. FISCHER:</p> <p>3 Q. Dr. Neushul, let's start out by talking about</p> <p>4 case reports. Mr. McCoy, if I recall, showed you case</p> <p>5 reports from Isselbacher in the early 1950s, Cartier in</p> <p>6 the early 1950s, and I think there was one from 1949.</p> <p>7 Do case reports establish anything with</p> <p>8 regard to causation?</p> <p>9 A. No.</p> <p>10 Q. What kinds of studies in the medical and</p> <p>11 scientific literature deal with whether or not something</p> <p>12 causes a disease?</p> <p>13 A. These are epidemiological studies, such as the</p> <p>14 classic study that was presented by Doll in 1955.</p> <p>15 Q. In the Isselbacher report that was Plaintiff's</p> <p>16 Exhibit Number 70 -- do you have this one in front of</p> <p>17 you?</p> <p>18 A. I don't think I have that.</p> <p>19 Q. Let me grab that.</p> <p>20 A. Okay.</p> <p>21 Q. Okay. If you look at the first column on the</p> <p>22 left? The -- it's about three quarters of the way down,</p> <p>23 there's a sentence that says, 'In the clinical report'?</p> <p>24 A. Is this on page 721?</p> <p>Page 135</p> <p>1 (The question found on page 133 at</p> <p>2 line 6 was read back by the</p> <p>3 reporter.)</p> <p>4</p> <p>5 THE WITNESS: The lettering that is on</p> <p>6 that board would fit on a box of that size.</p> <p>7 Q. (By Mr. McCoy) And, Doctor, just one final</p> <p>8 question. I just want to clarify. If you take a look</p> <p>9 at Owens-Illinois' Interrogatory Answers, you said you</p> <p>10 did not know the date when they sold the Kaylo business.</p> <p>11 Take a look at that.</p> <p>12 A. (Witness complied with the request.)</p> <p>13 Q. Would you agree that it was April 30th of 1958?</p> <p>14 A. That's correct. It says here that, 'In addition,</p> <p>15 effective April 30, 1958, Owens-Illinois, Incorporated,</p> <p>16 disposed of the business involved in this action by way</p> <p>17 of sale.'</p> <p>18 MR. McCOY: That's all the questions I</p> <p>19 have. Thank you.</p> <p>20 THE COURT: All right.</p> <p>21 And, Mr. Fischer, do you have any redirect?</p> <p>22 MR. FISCHER: I do, Your Honor, thank</p> <p>23 you.</p> <p>24</p>
	<p>Page 136</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>Page 137</p> <p>1 Q. Yes.</p> <p>2 A. Yes, I see that.</p> <p>3 Q. Okay. Could you read, please, the sentence from</p> <p>4 there to the end of the paragraph?</p> <p>5 A. 'In the clinical report presented herein, state</p> <p>6 authorities have determined by measurement that the</p> <p>7 asbestos dust exposure of this man during his 12 years</p> <p>8 of work was considerably above the safe level, which is</p> <p>9 considered to be five million particles per cubic foot</p> <p>10 of air for an eight-hour working day.'</p> <p>11 Q. Okay. So they refer to the TLV as 'the safe</p> <p>12 level', right?</p> <p>13 A. That's correct.</p> <p>14 Q. And what does this report that Mr. McCoy showed</p> <p>15 you say about whether or not this man's employer</p> <p>16 violated the TLV?</p> <p>17 A. Well, I mean, it's clear that he's, that he is</p> <p>18 working in conditions before safety measures were</p> <p>19 imposed, before the work environment was being held</p> <p>20 below the TLV.</p> <p>21 Q. Could you look at Table 4, which is on page 730</p> <p>22 of this same report?</p> <p>23 A. (Witness complied with the request.) Okay.</p> <p>24 Q. Okay. These are, a table involving the case</p>

<p style="text-align: center;">Page 138</p> <p>1 reports that Mr. McCoy wanted to talk about, right? 2 A. That's correct. 3 Q. And some of these case reports indicate that some 4 of these people in different jobs got lung cancer, 5 right? 6 A. That's correct. 7 Q. Does it say how many of them were smokers? 8 A. I believe that is noted. I'm trying to 9 find . . . 10 Q. Doctor, is smoking a cause of lung cancer? 11 A. Yes, it is, and there's a symbiosis between 12 smoking and exposure to asbestos. Your chances of 13 contracting an asbestos-related disease are enhanced 14 significantly if you're a smoker. And I know that in 15 this paper that's noted. 16 Q. Is that one of the reasons why case reports 17 aren't used to establish causation? 18 A. It's difficult because if you have someone whose 19 medical history is complex, their chances of developing 20 disease may be influenced by other factors. They could 21 be a smoker, they could also be working in an industrial 22 setting: The combination of those two are going to 23 vastly enhance their chances of contracting disease. 24 Q. Do the case reports try, in any way, to control</p>	<p style="text-align: center;">Page 140</p> <p>1 A. No. 2 Q. A sarcoma would be a totally different disease, 3 right? 4 A. It's different. It's connective tissue -- 5 Q. Okay. 6 A. -- so it's a different disease. 7 Q. Now, could you please read the paragraph just 8 above the table? Mr. McCoy only showed you the table 9 and asked you to talk about the table, right? 10 A. That's correct. 11 Q. All right. Look at the paragraph, one paragraph 12 above the table that starts, 'On analyzing'. 13 A. Would you like me to read that? 14 Q. Please do. 15 A. 'On analyzing these data it seems obvious that 16 many points would need discussion before anyone will be 17 able to establish a causal relationship between these 18 pathological findings and the asbestos factor.' 19 Q. It's obvious that these don't establish cause, 20 right? 21 A. These are case studies. It's not an 22 epidemiological study. 23 Q. The author says that it's obvious it doesn't 24 establish cause.</p>
<p style="text-align: center;">Page 139</p> <p>1 for smoking with regard to whether or not there is a 2 link between cancer and asbestos? 3 A. At this time I don't know that they're doing 4 that. Later on we see -- 5 Q. And epidemiological reports would do that, right? 6 A. That's correct. 7 Q. Okay. Let's talk about Cartier, which is another 8 one of the reports that Mr. McCoy showed you. This one 9 (indicating). This is Plaintiff's Exhibit 68. 10 Now, Mr. McCoy had given you page 185 and 11 then you jumped to page 262, right? 12 A. That's correct. 13 Q. So we can't tell what's on the pages before that, 14 right? 15 A. I don't know what article comes -- what this is a 16 discussion of. 17 Q. Okay. Now Mr. McCoy wanted to talk about two 18 case reports where there, it indicated pleural 19 mesothelioma and then there was an asterisk, right? 20 A. That's correct. 21 Q. And it says that the standard nomenclature for 22 this disease suggests mesothelial sarcoma, right? 23 A. That's correct. 24 Q. Are sarcomas the same as carcinoms?</p>	<p style="text-align: center;">Page 141</p> <p>1 A. That's correct. 2 Q. Mr. McCoy asked you some questions about dust 3 counts, right? 4 A. I believe so, yes. 5 Q. Does the Fleisher-Drinker report include dust 6 counts for the use of products, pipe and block 7 insulation? 8 A. Yes, it does. 9 Q. Does Fleischer-Drinker -- have the Fleischer- 10 Drinker dust counts ever been challenged in the public 11 literature? 12 A. No. 13 Q. Fleischer-Drinker said that pipe insulation is a 14 safe occupation based on those counts, right? 15 A. That's correct. 16 Q. Did anybody go back in the 1960s after Selikoff 17 and try to figure out whether or not those counts were 18 right? 19 A. Yes. Balzer and Cooper in the 1960s will go back 20 and say, look, guys, is this really true? Was there 21 really this -- was there more dust or less dust? And 22 they confirmed that the Drinker dust counts were 23 accurate. 24 Q. Mr. McCoy asked you some questions about the</p>

1 Dreessen report. He asked you about a report from, that
 2 is a citation in the Dreessen report from 1918, right,
 3 if you recall, Dr. Neushul?
 4 A. He may, he may have asked me about a citation
 5 from 1918. You will have to tell me where that was.
 6 Q. If you remember, it was a citation, I think,
 7 Pancoast and Miller?
 8 A. Oh, yeah. Pancoast.
 9 Q. Okay. Do you recall that?
 10 A. Yes.
 11 Q. Okay. Now Dreessen obviously knew about that,
 12 right?
 13 A. Yes.
 14 Q. It's cited in their paper?
 15 A. Yes.
 16 Q. Could you turn to page 117?
 17 A. Page 117? I do not have a page 117.
 18 Q. Is that the copy that Mr. McCoy gave you?
 19 A. I don't think I -- this isn't the complete
 20 report. The engineering section is not there.
 21 Q. Oh, you know what? You're looking at the Bonsib
 22 Report.
 23 A. I'm sorry.
 24 Q. Okay. The Dreessen report.

1 A. Oh, geez. Page 117. All right. Sorry. My page
 2 numbers are cut off --
 3 Q. Here. Let me just give you mine.
 4 A. -- on this one.
 5 Q. One-seventeen.
 6 A. Okay.
 7 Q. See the sentence that, 'It would seem'?
 8 A. Would you like me to read that?
 9 Q. Well, is that from the conclusion of the Dreessen
 10 report?
 11 A. It is. It's from the conclusion of the report.
 12 Q. What does Dreessen say in his conclusions with
 13 full knowledge of what happened in 1918?
 14 A. 'It would seem that if the dust concentration in
 15 asbestos factories could be kept below five million
 16 particles', paren, 'the engineering section of this
 17 report has shown how this may be accomplished', end of
 18 parenthesis, 'new cases of asbestosis probably would not
 19 appear.'
 20 Q. Dreessen was studying a textile mill. Is that
 21 right?
 22 A. That's correct.
 23 Q. What were they making in the textile mill?
 24 A. They were making cloth out of asbestos fibers.

1 Q. What are the ingredients of the cloth?
 2 A. The cloth is almost a hundred percent asbestos.
 3 There is a small cotton component as well. In our
 4 lifetime we've probably seen firemen wearing, we may
 5 have seen firemen wearing garments made of this sort of
 6 fabric but it's basically a hundred percent asbestos.
 7 Q. So when you apply the TLV to a 100 percent
 8 asbestos environment, how does that work?
 9 A. Well, you know that if you're staying below the
 10 TLV -- in that environment you're dealing with virtually
 11 pure asbestos dust. It's not a total dust standard
 12 because there aren't other dusts involved. It's just
 13 asbestos dust. So you know if you're staying below a
 14 TLV in that environment that you're staying within what
 15 they will term as a safe level.
 16 Q. When Mr. McCoy asked you about some dust counts
 17 from the Bonsib Report -- do you recall that?
 18 A. Yes.
 19 Q. -- and he asked you about a peak count of 18
 20 million. Was that a total dust count?
 21 A. I'd have to look at that report. My memory of it
 22 is that it is a total dust count.
 23 Q. How would you apply the TLV to a total dust
 24 count? How would you use the five million asbestos

1 particle TLV when you have a total dust count?
 2 A. Well, the A.C.G.I.H. will, has given you a total
 3 dust measurement. You're going to increase it to 50
 4 million particles per cubic foot at that point. So it
 5 changes radically when you're not dealing with just
 6 asbestos dust, you're dealing with -- many of those
 7 insulations had a percentage of asbestos and then a
 8 large percentage of other dusts such as, for example, 85
 9 percent magnesium, which is, as it states, 85 percent of
 10 the insulation is magnesium.
 11 Q. Let's talk a little bit about the kind of
 12 exposures necessary to cause asbestosis versus the kind
 13 of exposures that are required to cause mesothelioma,
 14 okay? What kind of exposures to asbestos today, 2007,
 15 are necessary to cause the disease asbestosis, this
 16 scarring of the lung?
 17 A. You're going to need the sorts of exposures the
 18 same as in the 1920s and 1930s. It's going to have to
 19 be certainly above the five million particle per cubic
 20 foot level in order to, a very high level of exposure in
 21 order to get that scarring inside your lungs.
 22 Q. Has the medicine or science with regards to the
 23 amount of exposure to asbestos that you need to get
 24 asbestosis changed between the '40s and now?

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1 A. I don't think it has changed significantly. You
 2 have to have a high level of exposure in order to
 3 develop asbestosis.
 4 Q. When they discover mesothelioma, when do they
 5 begin to understand what the dose is that is necessary
 6 to cause mesothelioma?
 7 A. That's something that is continuing to evolve but
 8 during the 1960s and during the 1970s they're going to
 9 learn that you could be exposed to a very low quantity
 10 of an asbestos-formed mineral and develop mesothelioma.
 11 People who never worked in industry or around industry
 12 have on occasion developed mesothelioma.
 13 Q. Was there any understanding that there was a
 14 disease risk at low doses, low exposure levels to
 15 asbestos prior to 1958?
 16 A. No.
 17 Q. Mr. McCoy asked you about Sir Richard Doll and
 18 the 1955 report. Is that right?
 19 A. That's correct.
 20 Q. Could you please look -- well, first let me ask
 21 you, what kind of environment was Sir Richard Doll
 22 studying?
 23 A. Sir Richard Doll is studying workers in the
 24 textile industry who were employed before any safety

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1 measures were imposed, okay, before what in England they
 2 called scheduled areas were imposed. They went through
 3 the factory, looked at where everybody was working to
 4 see what sort of dust levels, and he specifically states
 5 this. He says, look, I'm looking at people that were
 6 exposed to asbestos over a long period of time, 20
 7 years, before there were safety measures implemented.
 8 Q. Could you take a look at Exhibit Number 71,
 9 please?
 10 A. (Witness complied with the request.)
 11 Q. Would you please look at the last page of Exhibit
 12 Number 71?
 13 A. (Witness complied with the request.) Got it.
 14 Q. In the left-hand column a few lines just above
 15 Summary, would -- do you see where it begins, 'It is
 16 clear however'?
 17 A. Yes.
 18 Q. Is the next sentence what you were walking about
 19 a few minutes ago?
 20 A. Yes.
 21 Q. Okay. Would you read that to the jury, please?
 22 A. Okay. 'The extent of the reduction is
 23 particularly striking when it is recalled that between
 24 1933 and 1953 the incidence of the disease among the men

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1 in the country at large has increased sixfold.'
 2 Q. Okay. Now go over to the right-hand column.
 3 You see the paragraph that says, 'From the data'?
 4 A. Yes.
 5 Q. All right. The last, please read the last
 6 sentence of that paragraph.
 7 A. 'The risk has become progressively less as the
 8 duration of employment under the old, dusty conditions
 9 has decreased.'
 10 Q. Okay. Now please look at Table 2 on page 82.
 11 A. (Witness complied with the request.) Okay.
 12 Q. Do you see the column that says, 'Years of
 13 Exposure Before January 1st, 1933'?
 14 A. Yes.
 15 Q. Okay. What does that tell you about the risk
 16 that Doll found for people who were exposed to
 17 uncontrolled dust environments as opposed to people who
 18 were exposed where there was dust control?
 19 A. There's a considerably greater risk if you're
 20 exposed without any dust control.
 21 Q. Only two more, Dr. Neushul.
 22 The Plaintiff's Exhibit Number 72 which was
 23 the dust survey.
 24 A. Okay. All right.

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1 Q. Okay. One of the last questions Mr. McCoy asked
 2 you was to confirm by looking at the answers to
 3 interrogatories that the date of the sale of the Kaylo
 4 division was, it was April 30th of 1958?
 5 A. I believe that's correct.
 6 Q. Okay. So, and this study was done on April 28th
 7 and May 2nd, right?
 8 A. That's correct.
 9 Q. So on May 2nd we've got the new management in,
 10 right?
 11 A. I can see from the looking at the names of the
 12 managers listed here that they're new, yes.
 13 Q. Okay. And the recommendations by the AETNA, the
 14 insurance company, Mr. McCoy asked you to read them from
 15 the last page, right?
 16 A. That's correct.
 17 Q. The recommendations are to the new management 'to
 18 get the plant up to Owens-Illinois' standards', right?
 19 A. That's correct. It appears that, you know,
 20 obviously Willis Hazard is no longer involved and their
 21 standards are not at the O.I. standard.
 22 Q. Now lastly, Mr. McCoy had asked you some
 23 questions about the TLV and whether or not the TLV was
 24 truly a safe level, right?

<p style="text-align: right;">Page 150</p> <p>1 A. He may have asked questions to that effect. 2 Q. Okay. And I have here the TLV for 1953. It's 3 Owens-Illinois Exhibit 1009 and I believe it's already 4 been identified for the record through the examination 5 of Mr. Parker.</p> <p>6 With Your Honor's permission, may I share a 7 copy with Dr. Neushul?</p> <p>8 THE COURT: You may.</p> <p>9 Q. (By Mr. Fischer) Dr. Neushul, would you please 10 just identify that document for me, first.</p> <p>11 A. Okay. This is the Threshold Limit Values for 12 1953 Adopted at the Meeting of the American Conference 13 of Governmental Industrial Hygienists that was held in 14 Los Angeles that year.</p> <p>15 Q. And does it indicate in the preamble -- and I've 16 highlighted it there for you -- that the, what the idea 17 was of the TLV?</p> <p>18 A. Yes.</p> <p>19 Q. Could you read that to the jury?</p> <p>20 A. 'They represent conditions only within which it 21 is felt that workers may be repeatedly exposed, day 22 after day, without their health being adversely 23 affected.'</p> <p>24 Q. Is there any reason to believe that the</p>	<p style="text-align: right;">Page 152</p> <p>1 Dreessen say in there that it's okay to work in 2 conditions that looked like there was snow in the air 3 from the pipe covering and block insulation in the Kaylo 4 pipe?</p> <p>5 THE COURT: Just a second, please.</p> <p>6 MR. FISCHER: Objection, Your Honor, as 7 stated previously.</p> <p>8 THE COURT: Okay. Overruled. You may 9 answer.</p> <p>10 THE WITNESS: I don't believe he states 11 anything about, quote, snow in the air in that article, 12 but if you have a section to show me I would be happy to 13 look at it.</p> <p>14 Q. (By Mr. McCoy) I don't know of any either, but 15 I was asking.</p> <p>16 Then did Dreessen also say it would be okay 17 to shovel asbestos, put block and pipe covering, the 18 Kaylo type, off the ground, dump it in a wheelbarrow and 19 do that for eight hours a day? Did Dreessen say that 20 was okay?</p> <p>21 A. Dreessen is looking at the textile industry which 22 probably generated far higher levels of dust than the 23 activity you just described.</p> <p>24 Q. Doctor --</p>
<p style="text-align: right;">Page 151</p> <p>1 A.C.G.I.H., these government industrial hygienists, were 2 publishing a TLV that they knew people were going to get 3 sick if they followed it?</p> <p>4 A. No. And it's something they reviewed every year. 5 The names of the people on the committee are, you know, 6 the leaders in the field and, as I stated earlier, it 7 doesn't change for a very, very long time.</p> <p>8 Q. Is the TLV the best thinking of the day with 9 regard to how to maintain a safe environment with regard 10 to asbestos?</p> <p>11 A. This was what, this was the data that, within the 12 context of that time, in the 1950s, everyone looked to 13 as a way of insuring safety in the work place.</p> <p>14 Q. Did Owens-Illinois use and follow the TLV?</p> <p>15 A. Yes, they did.</p> <p>16 MR. FISCHER: Those are all the 17 questions I have. Thank you.</p> <p>18 THE COURT: Mr. McCoy, any additional 19 questions?</p> <p>20 MR. MCCOY: Just a couple.</p> <p>21</p> <p>22 CROSS EXAMINATION</p> <p>23 BY MR. MCCOY:</p> <p>24 Q. The Dreessen report that you talked about, did</p>	<p style="text-align: right;">Page 153</p> <p>1 A. He doesn't say anything about shovelling pipe 2 covering. That's not what the topic is.</p> <p>3 Q. Right. And you, the comparison that you just 4 made between the two, you're not an industrial hygienist 5 who's studied data to be able to say that a factory, 6 textile factory versus shovelling Kaylo off the ground, 7 what difference there might be in those exposures. You 8 don't have that experience, do you?</p> <p>9 A. Well, we know from certainly our on-going 10 discussion here that when you're working with asbestos 11 at a textile factory it's a hundred, virtually a hundred 12 percent, okay? You're talking about Kaylo, which, as 13 you've stated repeatedly, is 20 percent.</p> <p>14 Q. Doctor, what I'm asking you is, do you have 15 industrial hygienist data to compare those two types of 16 exposures?</p> <p>17 A. I'm a historian. I look at the history of 18 industrial hygiene. There's certainly some history in 19 the Dreessen report.</p> <p>20 Q. But, as far as being able to compare the actual 21 numbers, you're just speculating, right, the numbers?</p> <p>22 A. The numbers are the numbers.</p> <p>23 Q. Okay.</p> <p>24 A. I mean, you have numbers from the Bonsib Report</p>

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1 on dust levels from removing insulation; you have
 2 numbers from the Dreessen report on the textile
 3 industry.
 4 Q. What I'm asking you, Doctor, again, is the
 5 numbers of the shovelling eight hours a day of Kaylo off
 6 the ground compared to whatever happened in the Dreessen
 7 textile factory, you don't have those two sets of
 8 numbers to make the comparison, do you?

9 THE COURT: Just a second, please.

10 MR. FISCHER: Objection. It assumes
 11 facts not in evidence.

12 THE COURT: Okay. The objection is
 13 sustained.

14 MR. McCOY: That's all the questions I
 15 have, Judge.

16 THE COURT: Okay. Anything further,
 17 Mr. Fischer?

18 MR. FISCHER: No.

19 THE COURT: Okay. Thank you,
 20 Dr. Neushul. You may step down.

21 THE WITNESS: Thank you.

22 (Witness excused.)

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1 STATE OF ILLINOIS
 2 IN THE CIRCUIT COURT OF THE
 3 SECOND JUDICIAL CIRCUIT
 4 CRAWFORD COUNTY
 5
 6 I, TRACI D. ACKMAN, an Official Court Reporter
 7 for the Circuit Court of Crawford County, Second
 8 Judicial Circuit of Illinois, do hereby certify that I
 9 reported in shorthand the proceedings in the
 10 above-entitled cause; that I thereafter caused the
 11 foregoing Excerpt to be transcribed into typewriting,
 12 being the testimony of PETER NEUSHUL, which I hereby
 13 certify to be a true and accurate transcript of the said
 14 testimony at the Jury Trial, had before the Honorable
 15 MARK L. SHANER, Judge of said court.

16

17

18 TRACI D. ACKMAN
 19 Official Court Reporter
 20 CSR #084-003370

21

22

23 Dated this 25th day
 24 of February, 2008.

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1 THE COURT: Okay. Would counsel
 2 approach, please?

3

4

5

6 (Which was all the evidence offered
 7 and received and all other
 8 proceedings had on the Excerpt of
 9 the Report of Proceedings, being
 10 the testimony of PETER NEUSHUL, in
 11 the Jury Trial in the above-
 12 entitled cause.)

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